PECK'S REPORTS

REPORTS OF THE STATE BOTANIST

1869 - 1918

Albany, New York

For details of publication see Appendix

1868

(D.)

REPORT OF THE BOTANIST.

Dr. S. B. Woolworth,

Secretary of the Regents:

The following report for 1868 is respectfully submitted:

The specimens of plants known as the "Beck Collection" have been taken from the folios, poisoned, and arranged in the cabinet case prepared for them. A few folios, containing the undistributed specimens of the collection, yet remain, there not being room for them in the case without too close pressing.

The unmounted duplicate specimens of the State Herbarium have been arranged, with their proper labels, in the empty folios.

The number of specimens* of the State collection that have been poisoned and mounted is about one thousand five hundred, representing four hundred and ten species, distributed as follows: Phænogamia, or flowering plants, one hundred and seventy-eight; Cryptogamia, or flowerless plants, two hundred and thirty-two; of which nine species are ferns, one hundred and eighty mosses, and forty-three are liverworts. The names of the species are given in the accompanying list, marked A.

In mounting the specimens of mosses, the species, so far as possible, have been represented by series of specimens illustrating the different forms, variations in size, aspect, etc. In most instances a single plant has been separated from the tuft and placed by itself on the species sheet, that it may be seen individually as well as collectively. When the genus contains several or many species, the specimens of it have been prefaced by arranging a single plant of each species side by side on one sheet, thus giving, as it were, a synopsis of the genus. Great care has been taken to select the best specimens that could be obtained, and to mount only clear, unmixed ones; a very important matter, surely, since these diminutive plants often

* The word *specimen*, when used in reference to the smaller Cryptogamia, denotes, not a single plant, but a moderate sized tuft or aggregation of individual plants.

grow so intermingled that a small tuft frequently contains several different species.

The time between May 12th and November 1st was spent in the field in making observations and collections. Specimens have been taken from the counties of Albany, Essex, Herkimer, Rensselaer, Greene, Richmond, Kings, Queens and Suffolk. The number of specimens collected is about four thousand, belonging to six hundred and ninety-seven species, of which three hundred and ninety species are new to the Herbarium; three hundred and seventy-eight new to the State flora, and three are new to science, and are now described for the first time. The distribution of these species among the classes and orders is given below in tabular
A list of the names is given in a paper marked B. The desiders especially supplied in the Phœnogamia is marked opposite the nam in this list.

TABULAR STATEMENT OF PLANTS COLLECTED.

	No. of specimens. (Estimated.)	Species represented.	Species new to Herb'm.	Species new to State.	Species new to Scienc
Fungi, ...	700	173	173	173	
Algæ, ...	400	69	51	69	
Lichenes, ...	900	105	105	105	
Hepaticæ, ...	200	33	13	4	
Musci, ...	800	98	23	13	1
Characeæ, ...	20	7	7	7	
Filices, ...	15	3			
Cryptogamia, ...	3,035	488	372	371	1
Phœnogamia, ...	1,000	209	18	7	2
Total, ...	4,035	697	390	378	3

Apart from the plants themselves, a small quantity of the seed of two hundred and forty-two species has been collected. Seed not only afford characters for comprehensive classification, but the also frequently furnish good marks for specific distinction; hen their presence in the Herbarium is quite important. With them is possible, should a specimen, whose station is remote or exhaust become lost, to replace it by raising a new plant. A list of t species of which seeds have been collected is marked C.

It is with pleasure that acknowledgment is made of the aid received from the botanists of the State. Several of them have contributed liberally and furnished specimens of some very rare and interesting plants. Though all are good, it seems but just to make special mention of the large contribution of fungi made by Dr. Howe, and numbering two hundred and sixty-seven species. The whole number of species represented by contributed specimens is three hundred and forty-six, of which two hundred and six were neither represented in the Herbarium nor among my collections of the past season. A list of the botanists with their contributions is given in a paper marked D.

It is an interesting fact that the past season appears to have been one prolific in white flowered varieties. Species which have been occasionally observed to produce white flowers appear to have manifested an unusual tendency in that way, while others have been found for the first time, so far as we know, with such flowers. Spiræa tomentosa, *L.*, Cirsium arvense, *Scop.*, Malva moschata, *L.*, Viola cucullata, *Ait.*, Trifolium pratense, *L.*, Statice limonium, *L.*, Gentiana saponaria v. linearis, *Gray*, have been observed by me with white flowers, while Cypripedium arietinum, *R. Br.*, Lobelia syphilitica, *L.*, and Lobelia kalmii, *L.*, have been reported to me; the last one, however, from Michigan. What natural causes or conditions produce this variation in the color of the flower, and how far may these causes be under human control?

People are desirous of knowing the uses of plants. "What is the *use* of these things" is almost the first question uttered by many in reference to the botanist's treasures. Mere boys have frequently propounded it to me, and indicated a willingness to look after "such things," could they be assured of any material benefit to be derived from them. All readily admit the value of our cultivated plants, but few consider the wild ones, and especially those of the lower orders, to be of any account or importance. But the cultivated ones have been brought into the service of man from Nature's broad field, and additions are occasionally made to their number. Doubtless plants are now to be found growing wild in our woods and waste places, which, by cultivation, might be made as valuable as those in our fields and gardens. Asclepias cornuti might rival the Asparagus plant, Apios tuberosa, the Potato, and several of the Leguminosæ might come into equal value with Peas and Beans. But we may not look for useful plants among the higher orders alone. Mushrooms

have long been known to afford delicious and nutritious food. They are largely used in some of the countries of Europe, and have begun to be an article of commerce, and, preserved in cans, are brought to this country and offered for sale. In view of these facts, and of the increasing interest in the cultivation and use of these fungi in this country, it has been thought best to add brief remarks to the more important species of the Cryptogamia concerning their uses, and to note particularly those that are edible. The number of species of edible fungi already found in our State is thirty-three, a list of which is given in a paper marked E.

Further remarks upon these and other plants both useful and injurious, together with a record of those new to our State flora, descriptions of new species, etc., are given in a paper marked F.

A.

LIST OF SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

Clematis ochroleuca, *Ait.*
Ranunculus flammula v. reptans,
Trollius laxus, *Salisb.*
Dentaria diphylla, *L.* 2 spms.
" maxima, *Nutt.*
Sinapis nigra, *L.*
Viola selkirkii, *Pursh.*
Ascyrum crux-andreæ, *L.*
Hypericum canadense, *L.*
Arenaria grœnlandica, *Spreng.*
Stellaria longifolia, *Muhl.*
" borealis, *Bigel.*
Ceanothus ovalis, *Bigel.*
Acer spicatum, *Lam.*
" dasycarpum, *Ehrh.*
Lespedeza stuvei, *Nutt.*
Baptisia tinctoria, *R. Br.* 2 spms.
Geum album, *Gmelin.* 2 spms.
" virginianum, *L.*
Potentilla tridentata, *Ait.*
Parnassia caroliniana, *Michx.*
Circæa alpina, *L.*
Epilobium hirsutum, *L.*
Gaura biennis, *L.*
Ludwigia alternifolia, *L.*
Rhexia virginica, *L.*
Ammannia humilis, *Michx.*
Cuphea viscosissima, *Jacq.*
Thaspium trifoliatum, *Gray.*
Aralia trifolia, *Gray.*
" quinquefolia, *Gray.*
Cornus florida, *L.*
" sericea, *L.*
Lonicera ciliata, *Muhl.*
Viburnum aceriifolium, *L.*
Houstonia cœrulea, *L.*
Eupatorium sessilifolium, *L.*
Aster ericoides, *L.*
" lævis, *L.* 2 spms.
" undulatus, *L.*
Solidago thyrsoidea, *E. Meyer.*
" arguta, *Ait.*
" bicolor v. concolor, *Gray.*
" ulmifolia, *Muhl.*
" muhlenbergii, *T. & G.*
Xanthium spinosum, *L.*
Galinsoga parviflora, *Cav.* 2 spms
Anthemis arvensis, *L.*
Artemisia biennis, *Willd.*
Cacalia suaveolens, *L.*
Senecio aureus, *L.*
Arnica mollis, *Hook.*

Sonchus oleraceus, *L.* 2 spms.
" asper, *Vill.*
" arvensis, *L.*
Gaylussacia resinosa, *T. & G.*
Vaccinium macrocarpon, *Ait.*
" oxycoccus, *L.*
" uliginosum, *L.*
Pyrola elliptica, *Nutt.*
Primula mistassinica, *Michx.*
Lysimachia lanceolata, *Walt.*
Samolus valerandi, *L.*
Utricularia intermedia, *Hayne.*
" gibba, *L.*
Catalpa bignonioides, *Walt.*
Veronica officinalis, *L.*
Gerardia pedicularia, *L.*
Pedicularis lanceolata, *Michx.*
Lycopus europæus, *L.*
Origanum vulgare, *L.*
Lithospermum hirtum, *Lehm.*
Phlox subulata, *L.*
Gentiana saponaria v. linearis, *G.*
Chenopodium glaucum, *L.*
Atriplex rosea, *L.*
Polygonum acre, *H. B. K.*
Lindera benzoin, *Meisner.*
Dirca palustris, *L.*
Shepherdia canadensis, *Nutt.*
Callitriche verna, *L.*
Acalypha virginica v. gracilens.
Urtica urens, *L.*
" dioica, *L.*
Carya porcina, *Nutt.*
" alba, *Nutt.*
Abies canadensis, *Michx.*
Quercus ilicifolia, *Wang.*
" obtusiloba, *Michx.*
Salix cordata, *Muhl.* 2 spms.
" longifolia, *Muhl.* 3 spms.
Peltandra virginica, *Raf.*
Symplocarpus fœtidus, *Salisb.*
Lemna torreyi, *Aust.*
Sparganium simplex, *Huds.*
Naias major, *All.*
" flexilis, *Rostk.* 2 spms.
" indica v. gracillima.
Ruppia maritima, *L.* 2 spms.
Zannichellia palustris, *L.*
Potamogeton pectinatus, *L.*
" prælongus, *Wolf.*
Potamogeton perfoliatus, *L.*
" pauciflorus, *P'sh.*
" hybridus, *Michx.*
" lucens, *L.*
Triglochin maritimum v. elatum.
Habenaria dilatata, *Gray.*
" obtusata, *Richardson.*
" orbiculata, *Torr.*
" hookeri, *Torr.*
" fimbriata, *R. Br.*
Goodyera pubescens, *R. Br.*
Listera cordata, *R. Br.*
Arethusa bulbosa, *L.*
Pogonia verticillata, *Nutt.*
Corallorhiza multiflora, *Nutt.*
" innata, *R. Br.*
Cypripedium spectabile, *Swartz.*
Trillium sessile, *L.*
" grandiflorum, *Salisb.*
Smilacina racemosa, *Desf.*
Erythronium americanum, *Sm.*
Ornithogalum umbellatum, *L.*
Luzula parviflora v. melanocarpa
Juncus trifidus, *L.*
" nodosus, *L.* 2 spms.
" articulatus, *L.*
" scirpoides v. macrostemon.
Eleocharis intermedia, *Schultes.*
" rostellata, *Torr.*
" compressa, *Sulliv.*
Scirpus cæspitosus, *L.*
" planifolius, *L.*
" sylvaticus, *L.*
Eriophorum vaginatum, *L.*
Rhynchospora alba, *Vahl.*
" fusca, *R. & S.*
Carex scirpoidea, *Michx.*
" teretiuscula v. major, *K.*
" alopecoidea, *Tuck.*
" cephalophora, *Muhl.*
" canescens v. vitilis, *Gray.*
" sychnocephala, *Carey.*
" bigelovii, *Torr.*
" torta, *Boott.*
" aperta, *Boott.*
" stricta v. strictior, *Gray.*
" lenticularis, *Michx.* 2 spms
" limosa, *L.*
" irrigua, *Smith.*
" platyphylla, *Carey.* 2 spms

Carex retrocurva, *Dew.* 2 spms.
" laxiflora v. blanda. *Gray.*
" novæ-angliæ, *Schw.*
" varia, *Mukl.* 3 spms.
" richardsonii, *R. Br.*
" houghtonii, *Torr.*
" lupulina v. gigantoidea, *G.*
" rostrata, *Michx.* 2 spms.
" hartii, *Dew.*
" utriculata, *Boott.* 2 spms.
" monile, *Tuck.*
" oligosperma, *Michx.*
Triticum caninum, *L.*
Alopecurus geniculatus, *L.*
" aristulatus, *Michx.*
Aristida tuberculosa, *Nutt.*
Bouteloua curtipendula v. aristosa, *Gray.*
Leptochloa fascicularis, *Gray.*
Tricuspis purpurea, *Gray.*
Bromus secalinus, *L.*
" kalmii, *Gray.*
" ciliatus, *L.*
Aira flexuosa, *L.*
Panicum xanthophysum, *Gray.*
Andropogon furcatus, *Mukl.*

FILICES.

Woodsia glabella, *R. Br.*
" ilvensis, *R. Br.*
" obtusa, *Torr.*
Aspidium spinulosum v. boottii.
Asplenium ebeneum, *Ait.*
Cheilanthes vestita, *Swartz.*
Ophioglossum vulgatum, *L.*
Botrychium lunarioides, *Swartz.*
" simplex, *Hitchcock.*

MUSCI.

Funaria flavicans, *Michx.*
" hygrometrica, *Hedw.*
Aphanorhegma serrata, *Sulliv.*
Physcomitrium pyriforme, *L.*
Schistostega osmundacea, *W. M.*
Tetraplodon mnioides, *L. fil.*
Splachnum ampullaceum, *L.*
Hedwigia ciliata, *Dicks.*
Racomitrium microcarpum, *B'd*
" sudeticum, *Funk.*
" fasciculare, *Brid.*
Racomitrium aciculare, *Brid.*
Grimmia ovata, *Web. & Mohr.*
" olneyi, *Sulliv.*
" leucophœa, *Grev.*
" pennsylvanica, *Sch'gr.*
Schistidium confertum, *Funk.*
" apocarpum, *Hedw.*
" agassizii, *S. & L.*
Timmia megapolitana, *Hedw.*
Aulacomnion turgidum, *Sch'gr.*
" palustre, "
" heterostichum, *Bry. Eur.*
Mnium cinclidioides, *Hub.*
" punctatum, *Hedw.*
" hornum, *Hedw.*
" serratum, *Brid.*
" lycopodioides, *Hook.*
" cuspidatum, *Hedw.*
" rostratum, *Schwaegr.*
" drummondi, *Br. & Sch.*
" affine, *Bland.*
" spinulosum, *Bry. Eur.*
Bryum pallescens, *Schwaegr.*
" pallens, *Swartz.*
" uliginosum, *Brid.*
" elongatum, *Dicks*
" nutans, *Schreb.*
" crudum, *Schreb.*
" annotinum, *Hedw.*
" wahlenbergii, *Schwaegr.*
" pyriforme, *Hedw.*
" intermedium, *Brid.*
" bimum, *Schreb.*
" pseudo-triquetrum, *Sc'gr*
" roseum, *Schreb.*
" cyclophyllum, *Bry. Eur.*
" capillare, *Hedw.*
" cæspiticium, *L.*
" atropurpureum, *W. & M.*
" argenteum, *L.*
Bartramia œderi, *Swartz.*
" pomiformis, *Hedw.*
" fontana, *Brid.*
" muhlenbergii, *Sch'gr.*
Conostomum boreale, *Swartz.*
Meesia uliginosa, *Hedw.*
" tristicha, *Funk.*
" longiseta, *Hedw.*
Atrichum undulatum, *Beauv.*
" angustatum, *Beauv.*

Pogonatum brevicaule, *Brid.*
" urnigerum, *Brid.*
" alpinum, *Brid.*
Polytrichum piliferum, *Schreb.*
" juniperinum, *Hw.*
" formosum, *Hedw.*
" commune, *L.*
Diphyscium foliosum, *W. & M.*
Buxbaumia aphylla, *Haller.*
Fontinalis antipyretica v. gigantea, *Sulliv.*, 2 spms.
Fontinalis novæ-angliæ, *Sulliv.*
" dalecarlica, *Bry. Eur.*
Dichelyma capillaceum, *Dill.*
" falcatum, *Hedw.*
Pterigynandrum filiforme, *T'm.*
Leucodon brachypus, *Brid.*
Leptodon trichomitrion, *Mohr.*
Anomodon viticulosus, *L.*
" apiculatus, *Bry. Eur.*
" obtusifolius, "
" attenuatus, *Schreb.*
" ? tristis, *Cesati.*
Leskea polycarpa, *Ehrh.*
" obscura, *Hedw.*
" nervosa, *Schwægr.*
" rostrata, *Hedw.*
" denticulata, *Sulliv.*
Thelia hirtella, *Hedw.*
" asprella, *Schp.*
Myurella careyana, *Sulliv.*
" julacea, *Bry. Eur.*
Anacamptodon splachnoides, *B.*
Pylaisæa subdenticulata, *Schp.*
" intricata, *Hedw.*
" velutina, *Schp.*
Homalothecium subcapillatum.
Platygyrium repens, *Brid.*
Cylindrothecium cladorrhizans.
" seductrix, *Hedw.*
" brevisetum, *Sp.*
Neckera pennata, *Hedw.*
Homalia gracilis, *James.*
Climacium americanum, *Brid.*
" dendroides, *L.*
Hypnum tamariscinum, *Hedw.*
" delicatulum, *Mull.*
" minutulum, *Hedw.*
" pygmæum, *Bry. Eur.*
" scitum, *Beauv.*

Hypnum abietinum, *L.*
" blandowii, *W. & M.*
" paludosum, *Sulliv.*
" squarrosum, *L.*
" triquetrum, *L.*
" brevirostre, *Ehrh.*
" splendens, *Hedw.*
" umbratum, *Ehrh.*
" alleghaniense, *Mull.*
" hians, *Hedw.*
" piliferum, *Schreb.*
" sullivantii, *Spruce.*
" strigosum, *Hoffm.*
" diversifolium, *Bry. E.*
" boscii, *Schwægr.*
" serrulatum, *Hedw.*
" demissum, *Wils.*
" cylindricarpum, *Mull.*
" recurvans, *Schwægr.*
" molle, *Dicks.*
" eugyrium, *Bry. Eur.*
" ochraceum, *Turn.*
" montanum, *Wils.*
" cuspidatum, *L.*
" schreberi, *Willd.*
" cordifolium, *Hedw.*
" giganteum, *Schp.*
" stramineum, *Dicks.*
" sarmentosum, *Wahl.*
" uncinatum, *Hedw.*
" revolvens, *Swartz.*
" fluitans, *Hedw.* 2 spms.
" aduncum, *Hedw.* 2 spm
" sendtneri, *Schp.*
" filicinum, *L.* 3 spms.
" crista-castrensis, *L.*
" imponens, *Hedw.*
" reptile, *Michx.*
" fertile, *Sendt.*
" hamulosum, *Bry. Eur.*
" curvifolium, *Hedw.*
" haldanianum, *Grev.*
" pratense, *Koch.*
" rugosum, *Ehrh.*
" nitens, *Schreb.*
" salebrosum, *Hoffm.*
" lætum, *Brid.* 2 spms.
" acuminatum, *Beauv.*
" rutabulum, *L.*
" plumosum, *L.*

Hypnum velutinum, *L.*
" rivulare, *Brch.*
" novæ-angliæ, *S. & L.*
" stellatum, *Schreb.*
" polymorphum, *Brch.*
" hispidulum, *Brid.*
" dimorphum, *Brid.*
" minutissimum, *S. & L.*
" subtile, *Hoffm.*
" adnatum, *Hedw.*
" radicale, *Brid.*
" orthocladon, *Beauv.*
" noterophilum, *S. & L.*
" riparium, *L.*
" polygamum, *Bry. Eur.*
" lescurii, *Sulliv.*
" denticulatum, *L.*
" muhlenbeckii, *Hartm.*
" sylvaticum, *L.*
" pulchellum, *Dicks.*

HEPATICÆ.

Riccia fluitans, *L.*
" natans, *L.*
Anthoceros lævis, *L.*
Duvalia rupestris, *Nees.*
Reboulia hemisphærica, *Raddi.*
Fegatella conica, *Corda.*
Preissia commutata, *Nees.*
Blasia pusilla, *L.*
Pellia epiphylla, *Nees.*
Steetzia lyellii, *Lehm.*
Chiloscyphus polyanthus, *Corda.*
Geocalyx graveolens, *Nees.*
Sphagnœcetis communis, *Nees.*
Jungermannia trichophylla, *L.*
" connivens, *Dicks.*
" curvifolia, *Dicks.*
" catenulata, *Hub.*
" peckii, *Aust.*
" barbata, *Schreb.*
" taylori, *Hook.*
" schraderi, *Mart.*
" inflata, *Huds.*
" spaeellata, *Gies.*
" obtusifolia, *Hook.*
" incisa, *Schrad.*
" exsecta, *Smith.*
Scapania nemorosa, *Nees.*
Sarcoscyphus ehrharti, *Corda.*
Frullania grayana, *Mont.*
" æolotis, *Nees.*
" virginica, *Gottsche.*
" eboracensis, *Gottsche.*
Lejunia serpyllifolia, *Libert.*
Radula complanata, *Dumort.*
" obconica, *Sulliv.*
Madotheca platyphylla, *Dumort.*
" porella, *Nees.*
Ptilidium ciliare, *Nees.*
Trichocolea tomentella, *Nees.*
Sendtnera juniperina, *Nees.*
Mastigobryum trilobatum, *Nees.*
" deflexum, *Nees.*
Calypogeia trichomanis, *Corda.*

B.

PLANTS COLLECTED.

(Flowering Plants—Phænogamia.)

Anemone pennsylvanica, *L.* Fr.
Hepatica triloba, *Chaix.*
" acutiloba, *DC.*
Coptis trifolia, *Salisb.*
Ranunculus recurvatus, *Poir.*
" fascicularis, *Muhl.*
Trollius laxus, *Salisb.* Fr.
Thalictrum purpurascens, *L.* Fls.
" cornuti, *L.* Fr.
" anemonoides, *Mx.*
Sanguinaria canadensis, *L.*
Nymphæa minor,* *DC.*
Sarracenia purpurea, *L.*
Dentaria laciniata, *Muhl.* Root.
Barbarea vulgaris, *R. Br.*
Arabis hirsuta,* *Scop.*
" canadensis, *L.*
Lepidium campestre, *L.*
Nasturtium armoracia, *Fr.*
Viola canadensis, *L.*
" pubescens, *Ait.* Fr.
" " v. eriocarpa,* *Nutt.*
" " v. scabriuscula,* *T. & G.*
" cucullata, *Ait.* Whitish fls.
" " v. cordata,* *Gr.*
" pedata, *L.*
Hypericum canadense v. major.*
Elatine clintoniana,* *Peck.*
Silene noctiflora, *L.*
" stellata, *Ait.* Fr.
Althæa officinalis, *L.* Fr.
Malva moschata,* *L.*
Rhus copallina, *L.*
Vitis cordifolia, *Michx.* Fr.
Rhamnus alnifolius, *L'Her.* Fr.
Acer spicatum, *Lam.* Fr.
Lupinus perennis, *L.* Fr.
Trifolium pratense, *L.* Wh. fls.
Robinia pseudacacia, *L.*
Lespedeza stuvei, *Nutt.* Fr.
Lathyrus palustris, *L.* Nar. lvs.
Apios tuberosa, *Mœnch.* Tubers.
Cassia chamæcrista, *L.*
" nictitans, *L.*
Prunus maritima, *Wang.*
" pumila, *L.*
Spiræa tomentosa, *L.* Wh. fls.
Fragaria vesca, *L.*
Rubus strigosus, *Michx.* Fr.
" neglectus,* *Peck.*
" occidentalis, *L.* Fr.
" hispidus, *L.* Fr.
Rosa carolina, *L.*
Cratægus crus-galli, *L.*
Epilobium hirsutum, *L.*
" palustre v. linearis.
Œnothera pumila, *L.*
Mitella nuda, *L.* Fr.
Ribes lacustre, *Poir.* Fr.
" floridum, *L.*
Sanicula canadensis, *L.*
" marilandica, *L.*
Zizia integerrima, *DC.*
Cryptotænia canadensis, *DC.*
Apium graveolens,* *L.*
Lonicera oblongifolia, *Muhl.* Fr.
Cornus canadensis, *L.* Fr.
Viburnum opulus, *L.*
" pubescens, *Pursh.*
" nudum, *L.* Nar. lvs.
Galium boreale, *L.*
" triflorum, *Michx.*
" trifidum v. pusillum,* *Gr.*
Eupatorium teucrifolium, *Willd.*
Aster flexuosus, *Nutt.* Dwarf.
" linifolius, *L.*
Erigeron annuum, *Pers.*
" philadelphicum, *L.*
Solidago cæsia, *L.*
" muhlenbergii, *T. & G.*
" thyrsoidea, *E. Meyer.*
" virga-aurea, *L.*
Baccharis halimifolia, *L.*
Bidens cernua, *L.* Dwarf.

* Not before represented in the State Herbarium.

Nabalus fraseri, *DC.*
" altissimus, *Hook.*
Hieracium scabrum, *Michx.*
" gronovii, *L.*
Helianthus annuus, *L.* Dwarf.
Lactuca canadensis, *L.*
Lobelia kalmii, *L.* Simple form.
" dortmanna, *L.* Dwarf.
Campanula aparinoides, *Pursh.*
Vaccinium stamineum, *L.* Fr.
" cæspitosum,* *Michx.*
" canadense, *Kalm.* Fr.
" uliginosum, *L.* Fr.
Vaccinium pennsylvanicum v. angustifolium.* *Gray.*
Kalmia angustifolia, *L.*
" latifolia, *L.* Fr.
Gaultheria procumbens, *L.*
Chiogenes hispidula, *T. & G.* Fr.
Ledum latifolium, *Ait.*
Pyrola secunda v. pumila.*
Monotropa hypopitys, *L.*
Lysimachia thyrsiflora, *L.* Fr.
Veronica scutellata, *L.*
Utricularia intermedia, *Hayne.*
Scrophularia nodosa, *L.*
Pedicularis canadensis, *L.*
Physostegia virginiana, *Benth.*
Collinsonia canadensis, *L.* Root.
Epiphegus virginiana, *Bart.*
Lysimachia stricta, *Ait.*
Monarda didyma, *L.*
Lithospermum officinale, *L.*
Gentiana saponaria v. linearis.
Menyanthes trifoliata, *L.* Fr.
Asclepias obtusifolia, *L.* Fr.
Hydrophyllum virginicum, *L.*
Atriplex arenaria, *Nutt.* Fr.
Chenopodium hybridum, *L.*
" ambrosioides, *L.*
" anthelminticum, *L.*
Suæda maritima, *Dumort.*
Salicornia herbacea, *L.*
" virginica, *L.*
" ambigua, *Michx.*
Rumex obtusifolius, *L.*
" orbiculatus,* *Gray.*
Callitriche verna, *L.*
Limnanthemum lacunosum, *Gr.*
Juglans cinerea, *L.* Stam. fls.
Betula lenta, *L.*
" papyracea, *Ait.*
" alba v. populifolia, *Sph.*
Quercus ilicifolia, *Wang.*
Myrica cerifera, *L.*
Populus balsamifera,* *L.*
Salix candida, *Willd.*
" humilis, *Marshall.*
" tristis, *Ait.*
" babylonica, *Tourn.*
" longifolia, *Muhl.*
Arisæma triphyllum, *Torr.*
Acorus calamus, *L.* Root.
Sparganium simplex, *Huds.* Fls.
" " v. nuttallii, *Gr.*
" " v. fluitans, *Gr.*
Naias flexilis, *Rostk.*
Potamogeton hybridus, *Michx.*
" perfoliatus, *L.*
" amplifolius.* *Tuck.*
" claytonii, *Tuck.*
" oakesianus,* *Rob's.*
" lucens, *L.*
Vallisneria spiralis,* *L.*
Sagittaria graminea, *Michx.*
" heterophylla,* *Pursh.*
" variabilis, *Engelm.*
Habenaria hookeri, *Torr.*
" dilatata, *Gray.*
" blephariglottis, *Hook.*
Goodyera, menziesii,* *Lindl.*
Spiranthes cernua, *Richard.*
" latifolia, *Torr.*
" romanzoviana,* *Cham.*
Xyris flexuosa v. pusilla,* *Gr.*
Sisyrinchium bermudiana, *L.*
Clintonia borealis, *Raf.*
Trillium cernuum, *L.* Fr.
" erythrocarpum, *Michx.*
Smilacina stellata, *Desf.* Fr.
Polygonatum biflorum, *Ell.*
Erythronium americanum, *Sm.*
Streptopus amplexifolius, *DC.*
Smilax glauca, *Walt.*
Eriocaulon septangulare, *With.*
Juncus pelocarpus, *E. Meyer.*

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* Not before represented in the State Herbarium.

Juncus nodosus, *L.*
" canadensis v. coarctatus.
" " v. longicaudatus, *Engm.*
" articulatus, *L.*
" alpinus v. insignis,* *Fr.*
" maritimus,* *Lam.*
Cladium mariscoides, *Torr.* Root.
Rhynchospora capillacea, *Torr.*
Carex siccata, *Dew.* [ta.*
" gynocrates v. substamina-
" stellulata v. scirpoides, *Gr.*
" laxiflora v. blanda, *Gray.*
" varia, *Muhl.*
" pennsylvanica, *Lam.*
" arctata, *Boott.*
" tuckermani,* *Boott.*
" straminea v. tenera,* *Gr.*
Carex scoparia, *Schk.*
" emmonsii,* *Dew.*
" rosea v. radiata,* *Dew.*
" pauciflora, *Lightf.*
" vulpinoidea, *Michx.*
" lagopodioides, *Schk.*
" tentaculata v. gracilis, *Bt.*
" scirpoidea, *Michx.*
Brizopyrum spicatum, *H.* Root.
Eragrostis reptans, *Nees.*
" pectinacea, *Gray.*
" poecoides, *Beauv.*
Panicum clandestinum, *L.*
" depauperatum, *Muhl.*
" latifolium, *L.*
Calamagrostis canadensis, *Beauv*
Triticum repens, *L.* Root.

(Flowerless Plants — Cryptogamia.)

FERNS—*Filices.*

Woodwardia angustifolia. *Sm.*
Phegopteris hexagonoptera, *Fee.*
Pellæa gracilis, *H.*

MOSSES—*Musci.*

Sphagnum rigidum, *Schp.*
" sedoides, *Brid.*
" wulfianum,* *Angst.*
" girgensohnii,* *Russ.*
" laricinum,* *Lindbg.*
" lindenbergii, *Schp.*
" subsecundum v. contortum,* *Nees.*
" recurvum,* *Beauv.*
" squarrosum, *Pers.*
" cymbifolium v. congestum, *Bry. Eur.**
" acutifolium, *Ehrh.*
Andræa crassinervia,* *Brch.*
" rupestris, *Turn.*
Weisia viridula, *Brid.*
Rhabdoweisia fugax, *Bry. Eur.*
" denticulata. "
Gymnostomum rupestre, *Schgr.*
" curvirostrum.
Astomum sullivantii,* *Bry. Eur.*
Anodus donianus,* "
Tetraphis pellucida, *Hedw.*
Dicranum montanum, *Hedw.*
" rufescens, *Turn.*
" heteromallum, *Hedw.*
" flagellare, *Hedw.*
" elongatum, *Schwægr.*
" longifolium, *Hedw.*
" spurium,* *Hedw.*
Paludella squarrosa,* *L.*
Fissidens osmundioides, *Hedw.*
Barbula fragilis,* *Wils.*
" mucronifolia, *Schgr.*
Didymodon rubellus, *Roth.*
Blindia acuta, *Dicks.*
Encalypta ciliata,* *Hedw.*
Amphoridium lapponicum, *Sch.*
" mougeotii,* *Schp.*
" peckii,* *Sulliv.*
Racomitrium sudeticum, *Funk.*
Drummondia clavellata, *Hook.*
Orthotrichum obtusifolium, *Sod.*
" anomalum, *Hedw.*
" strangulatum, *Beauv.*
" canadense, *Schp.*
" ludwigii, *Brid.*
" hutchinsiæ, *H-T.*
Coscinodon pulvinatus,* *Br. Eu.*
Pogonatum urnigerum, *Brid.*

* Not before represented in the State Herbarium.

Polytrichum commune, *L.*
" formosum, *Hedw.*
Mnium affine, *Bland.*
" stellare,* *Hedw.*
" medium,* *Schp.*
" cuspidatum, *Hedw.*
" drummondi, *Br. & Sch.*
Timmia megapolitana, *Hedw.*
Amblyodon dealbatus,* *Beauv.*
Bryum pallens, *Swartz.*
" bimum, *Schreb.*
" pyriforme, *Hedw.*
" pseudo-triquetrum, *Schgr.*
" nutans, *Schreb.*
Aulacomnion palustre, *Schwaegr.*
Buxbaumia aphylla, *Haller.*
Fontinalis novæ-angliæ, *Sulliv.*
Leucodon brachypus, *Brid.*
Myurella careyana, *Sulliv.*
Pylaisea velutina, *Schp.*
Aphanorhegma serrata, *Sulliv.*
Hypnum demissum, *Wils.*
" fluitans, *Hedw.*
" sendtneri, *Schp.*
" revolvens, *Swartz.*
" turfaceum,* *Lindbg.*
" pratense, *Koch.*
" radicale, *Brid.*
" orthocladon, *Beauv.*
" delicatulum, *Mull.*
" giganteum, *Schp.*
" sullivantii, *Spruce.*
" plumosum, *L.*
" populeum v. rufescens.*
" stramineum, *Dicks.*
" stellatum, *Schreb.*
" gracile,* *Bry. Eur.*
" nitens, *Schreb.*
" schreberi v. montanum.*
" cuspidatum, *L.*
" scorpioides,* *L.*
" strigosum, *Hoffm.*
" polymorphum, *Brch.*
" brevirostre, *Ehrh.*
" splendens, *Hedw.*
" scitum, *Beauv.*
" blandowii, *W. & M.*
" serpens, *L.*
Homalia jamesii,* *Schp.*
Plagiothecium piliferum v. brevipilum,* *Bry. Eur.*

LIVERWORTS—*Hepaticæ.*

Riccia sullivantii,* *Aust.*
Anthoceros lævis, *L.*
Marchantia polymorpha,* *L.*
Preissia commutata, *Nees.*
Duvalia rupestris, *Sulliv.*
Pellia epiphylla, *Nees.*
Grimaldia barbifrons,* *Raddi.*
Reboulia hemisphærica, *Raddi.*
Aneura palmata,* *Nees.*
Metzgeria pubescens,* *Raddi.*
" furcata,* *Nees.*
Geocalyx graveolens, *Nees.*
Plagiochila spinulosa,* *N. & M.*
" asplenioides,* "
Sphagnœcetis communis, *Nees.*
Jungermannia obtusifolia, *Hk.*
" trichophylla, *L.*
" setiformis,* *Ehrh.*
" curvifolia, *Dicks.*
" connivens, *Dicks.*
" catenulata, *Hub.*
" inflata, *Huds.*
" bicuspidata, *L.*
" divaricata,* *Sm.*
Frullania grayana, *Mont.*
" eboracensis, *Lehm.*
" hutchinsiæ,* *Nees.*
Lejunia serpyllifolia, *Libert.*
Radula complanata, *Dumont.*
" pallens,* *Nees.*
Ptilidium ciliare, *Nees.*
Trichocolea tomentella, *Nees.*
Lepidozia reptans, *Nees.*

(LICHENS—*Lichenes.*)

Usnea barbata, *Fr.*
" " v. florida, *Fr.*
" " v. hirta, *Hoffm.*
" " v. dasypoga, *Fr.*
" longissima, *Ach.*
Alectoria jubata v. chalybeiformis, *Ach.*
" " v. implexa, *Fr.*

* Not before represented in the State Herbarium.

Evernia prunastri, *Ach.*
" furfuracea, *Mann.*
" " v. cladonia, *Tk.*
Ramalina calicaris v. fastigiata.
" " v. farinacea.
" " v. inflata.
Cetraria aculeata, *Fr.*
" islandica, *Ach.*
" cucullata, *Ach.*
" ciliaris; *Ach.*
" lacunosa, *Ach.*
" oakesiana, *Tuck.*
Solorina saccata, *Ach.*
Nephroma arcticum, *Fr.*
" tomentosum, *Kærb.*
" tom. v. helveticum.
" lævigatum, *Ach.*
" læv. v. papyraceum.
Peltigera aphthosa, *Hoffm.*
" canina, *Hoffm.*
" polydactyla, *Hoffm.*
" horizontalis, *Hoffm.*
Sticta pulmonaria, *Ach.*
" glomerulifera, *Delise.*
" quercizans, *Ach.*
" sylvatica, *Ach.*
Parmelia perlata, *Ach.*
" " v. olivetorum, *Ach.*
" crinita, *Ach.*
" tiliacea, *Fr.*
" saxatilis, *Ach.*
" conspersa, *Ach.*
" olivacea, *Ach.*
" stygia, *Ach.*
" physodes v. entermorpha, *Tuck.*
Physcia stellaris, *Wallr.*
" " v. tribracia, *Fr.*
" cæsia v. angustior, *Fr.*
" obscura, *Nyl.*
" " v. erythrocordia, *Tk.*
" aquila v. detonsa, *Tk.*
" pulverulenta, *Fr.*
" speciosa, *Ach.*
Physcia speciosa v. leucomela.
Pyxine cocoes v. sorediata, *Tk.*
Theloschistes parietinus, *Norm.*
" par. v. polycarpus, *Fr.*
" chrysophthalmus.
Placodium rupestre, *Tuck.*
Placodium aurantiacum, *Lightf.*
" aur. v. flavovirescens, *Fr.*
Gyalecta lutea, *Tuck.*
Lecanora pallida, *Schær.*
" pallescens, *Schær.*
" tartarea, *Ach.*
" " v. frigida, *Ach.*
" subfusca, *Ach.*
" varia, *Ach.*
" cinerea, *Fr.*
" atra, *Ach.*
" muralis, *Schær.*
" elatina v. ochrophæa.
Lecidea contigua, *Fr.*
" " albocœrulescens.
" enteroleuca, *Fr.*
" sanguinaria, *Ach.*
Buellia parasema, *Kærb.*
" myriocarpa, *Tuck.*
" petræa, *Tuck.*
" lactea, *Kærb.*
Biatora atropurpurea, *Ach.*
" sanguineoatra, *Fr.*
" rufonigra, *Tuck.*
" virides cens, *Fr.*
" vernalis, *Fr.*
" chlorantha, *Tuck.*
Bæomyces æruginosus, *DC.*
Cladonia cæspiticia, *Flærk.*
" pyxidata, *Fr.*
" " v. symphicarpa, *Fr.*
" gracilis, *Fr.*
" " v. hybrida, *Fr.*
" " v. elongata, *Fr.*
Cladonia gracilis v. taurica.
" degenerans, v. cariosa.
" fimbriata, *Fr.*
" " v. adspersa.
" squamosa, *Hoffm.*
" " v. delicata.
" furcata, *Flærk.*
" " v. racemosa, *Flk.*
" " v. subulata, *Flk.*
" rangiferina, *Hoffm.*
" " v. alpestris.
" amaurocrea, *Flærk.*
" uncialis, v. turgescens.
" mitrula, *Tuck.*
" cornucopioides, *Fr.*
" cristatella, *Tuck.*

Pilophorum fibula, *Tuck.*
Stereocaulon tomentosum, *Fr.*
" paschale, *Ach.*
Urceolaria scruposa, *Ach.*
Pannaria microphylla, *Mass.*
" lanuginosa, *Ach.*
Pertusaria pertusa, *Ach.*
" " v. areolata.
" velata, *Nyl.*
" " v. multipuncta.
" wulfenii, *Dec.*
" globularis, *Ach.*
Conotrema urceolatum, *Tuck.*
Pyrenula nitida, *Ach.*
Trypethelium virens, *Tuck.*
Graphis scripta, *Ach.*
Umbilicaria muhlenbergii, *Tk.*
" pustulata, v. papulosa.
" proboscidea, *DC.*
" hirsuta, *Ach.*
" dillenii, *Tuck.*
Collema flaccidum, *Ach.*
" ryssoleum, *Tuck.*
Leptogium tremelloides, *Fr.*
" lacerum, *Fr.*
" chloromelum, *Nyl.*
" saturninum, *Nyl.*

SEA-WEEDS—*Algæ.*

Chondria dasyphylla, *Ag.*
" baileyana, *Mont.*
" tenuissima, *Ag.*
Gelidium corneum, *Lamour.*
Polysiphonia subtilissima, *Mont.*
" olneyi, *Harv.*
" harveyi, *Bail.*
" variegata, *Ag.*
" nigrescens, *Grev.*
Bostrychia rivularis, *Harv.*
Dasya elegans, *Ag.*
Champia parvula, *Harv.*
Corallina officinalis, *L.*
Grinnellia americana, *Harv.*
Delesseria sinuosa, *Lamour.*
Gracilaria multipartita, *J. Ag.*
Solieria chordalis, *J. Ag.*
Polyides rotundus, *Grev.*
Rhodymenia palmata, *Grev.*
Phyllophora brodiæi, *J. Ag.*
Anhfeltia plicata, *Fr.*
Chondrus crispus, *Lyngb.*
Chylocladia baileyana, *Harv.*
Spyridia filamentosa, *Harv.*
Ceramium rubrum, *Ag.*
" rub. v. decurrens.
" diaphanum, *Roth.*
" fastigiatum, *Harv.*
" arachnoideum, *Ag.*
Callithamnion baileyi, *Harv.*
" byssoideum, *Arñ.*
Sargassum vulgare, *Ag.*
" montagnei, *Bail.*
Fucus nodosus, *L.*
" vesiculosus, *L.*
" scorpioides, *Fl. Dan.*
Laminaria fascia, *Ag.*
" saccharina, *Lamour.*
Desmarestia viridis, *Lamour.*
Stilophora rhizodes, *J. Ag.*
Dictyosiphon fœniculaceus, *Grv.*
Chordaria flagelliformis, *Ag.*
" divaricata, *Ag.*
Leathesia tuberiformis, *Gray.*
Ectocarpus viridis. *Harv.*
" littoralis. *Lyngb.*
Chorda filum, *Stack.*
Punctaria latifolia, *Grev.*
" tenuissima, *Grev.*
Bryopsis plumosa, *Lamour.*
Porphyra vulgaris, *Ag.*
Enteromorpha intestinalis, *Link.*
" compressa, *Grev.*
" clathrata, *Grev.*
Ulva latissima, *L.*
" linza, *L.*
Hormotrichum younganum, *Dw.*
Chætomorpha tortuosa, *Dw.*
" linum, *Kutz.*
Cladophora arcta, *Dw.*
" glaucescens, *Griff.*
" refracta. *Roth.*
" fracta, *Fl. Dan.*
" glomerata. *L.*
Rhizoclonium riparium, *Roth.*
Chætophora pisiformis, *Ag.*
" endiviæfolia, *Ag.*
Draparnaldia glomerata, *Ag.*
Batrachospermum moniliforme.
Nostoc commune, *Vauch.*

CHARACEÆ.

Nitella flexilis, *Ag.*
" mucronata v. flabellata.
" acuminata v. glomeruliferа, *A. Br.*
Chara coronata, *Ziz.*
" fragilis, *Desv.*
" fœtida, *A. Br.*
" contraria, *A. Br.*

MUSHROOMS—*Fungi.*

Agaricus mappa, *Batsch.*
" rachodes, *Vitt.*
" melleus, *Vahl.*
" nebularis, *Batsch.*
" laccatus, *Scop.*
" radicatus, *Bull.*
" ochropurpureus, *Berk.*
" cetreatus, *Jacq.*
" salignus, *Pers.*
" petaloides, *Bull.*
" atrocœruleus, *Fr.*
" prunulus, *Scop.*
" polychrous, *Berk.*
" campestris, *L.*
" epixanthus, *Paul.*
" sphagnorum, *Pers.*
" orcella, *Bull.*
" curtisii, *Berk.*
Coprinus comatus, *Fr.*
" atramentarius, *Bull.*
" domesticus, *Pers.*
" plicatilis, *Curt.*
" ephemerus, *Fr.*
Hygrophorus cinnabarinus, *Fr.*
" conicus, *Fr.*
Lactarius torminosus, *Fr.*
" piperatus, *Fr.*
" indigo, *Fr.*
" volemus, *Fr.*
" chrysorheus, *Fr.*
" angustissimus.
Russula emetica, *Fr.*
" alutacea, *Fr.*
Cantharellus tubæformis, *Bull.*
" crispus, *Fr.*
Marasmius plancus, *Fr.*
" rotula, *Fr.*
Lentinus lecontei, *Fr.*
Panus stypticus, *Fr.*
Panus dorsalis, *Fr.*
Schizophyllum commune, *Fr.*
Lenzites betulina, *Fr.*
" sepiaria, *Fr.*
" bicolor, *Fr.*
Boletus elegans, *Fr.*
" bovinus, *L.*
" scaber, *Bull.*
" felleus, *Bull.*
Dædalea cinerea, *Fr.*
" confragosa, *Bolt.*
Glœoporus nigropurpurascens.
Polyporus ovinus, *Schaff.*
" tomentosus, *Fr.*
" perennis, *Fr.*
" boucheanus, *Fr.*
" elegans, *Fr.*
" lucidus, *Fr.*
" sulphureus, *Fr.*
" lacteus, *Fr.*
" gilvus, *Fr.*
" adustus, *Fr.*
" cerifluus, *B. & C.*
" resinosus, *Fr.*
" subfuscus, *Fr.?*
" applanatus, *Fr.*
" igniarius, *Fr.*
" scutellatus, *Fr.*
" carneus, *Nees.*
" cinnabarinus, *Fr.*
" biformis, *Kl.*
" hirsutus, *Fr.*
" hirsutulus, *Schw.*
" versicolor, *Fr.*
" abietinus, *Fr.*
" occidentalis, *Kl.*
" medulla-panis, *Fr.*
" laceratus, *Berk.*
" luridus, *B. & C.*
Merulius tremellosus, *Schrad.*
Fistulina hepatica, *Fr.*
Craterellus cornucopioides, *P.*
Thelephora pallida, *Schw.*
Hydnum repandum, *L.*
" suaveolens, *Scop.*
" gelatinosum, *Scop.*
" cirrhatum, *Pers.*
" coralloides, *Scop.*
Irpex tulipiferæ, *Schw.*
" deformis, *Fr.*

Irpex cinnamomeus, *Fr.*
Stereum fasciatum, *Fr.*
" complicatum, *Fr.*
" purpureum, *Pers.*
" spadiceum, *Fr.*
" ochraceo-flavum, *Schw.*
" bicolor, *Fr.*
" tabacinum, *Fr.*
Corticium oakesii, *B. & C.*
Clavaria botrytis, *Pers.*
" stricta, *Pers.*
" inæqualis, *Fr.*
Spathularia flavida, *Pers.*
Pistillaria muscicola, *Fr.*
Tremella aurantia, *Schw.*
Exidia auricula-judæ, *Fr.*
" glandulosa, *Fr.*
Lycoperdon gemmatum, *Batsch.*
" pyriforme, *Schæff.*
" calvescens, *B. & C.*
" wrightii, *B. & C.*
Bovista plumbea, *Pers.*
Scleroderma vulgare, *Fr.*
Geaster hygrometricus, *Pers.*
Lycogala epidendrum, *L.*
Æthalium septicum, *Fr.*
Diderma globosum, *Pers.*
" citrinum, *Fr.*
Didymium xanthopus, *Fr.*
Stemonitis ferruginea, *Ehrh.*
Dictydium microcarpum, *Shd.*
Cribraria purpurea, *Schrad.*
" intricata, *Schrad.*
Arcyria cinerea, *Fl. Dan.*
Trichia rubiformis, *Pers.*
" clavata, *Pers.*
Cyathus campanulatus, *Fr.*
Diplodia viticola, *Desm.*
Nemaspora crocea, *Pers.*
Myxosporium nitidum, *B. & C.*
Uredo solidaginis, *Schw.*
" luminata, *Schw.*
Uredo effusa, *Strauss.*
" leguminosarum, *Lk.*
" pyrolæ, *Strauss.*
Uromyces lespedezæ-violaceæ.
Ustilago maydis, *Corda.*
" urceolorum, *DC.*
" utriculosa, *Nees.*
Rœstelia lacerata, *Sow.*
Æcidium grossulariæ, *DC.*
" houstoniatum, *Schw.*
" sambuci, *Schw.*
" hydnoideum, *B. & C.*
Tuberculariа vulgaris, *Tode.*
Polythrincium trifolii, *Kze.*
Morchella esculenta, *Pers.*
Geoglossum hirsutum, *Pers.*
Peziza macropus, *Pers.*
" scutellata, *L.*
" calycina, *Schum.*
" cyathoidea, *Bull.*
" agassizii, *B. & C.*
" citrina, *Batsch.*
Bulgaria sarcoides, *Fr.*
Dichæna faginea, *Fr.*
Rhytisma solidaginis, *Schw.*
" acerinum, *Fr.*
" decolorans, *Fr.*
" prini, *Fr.*
" punctatum, *Fr.*
Hysterium lineare, *Fr.*
Xylaria polymorpha, *Pers.*
" hypoxylon, *Ehrh.*
Hypocrea lactifluorum, *Schw.*
Hypoxylon ustulatum, *Bull.*
" cohærens, *Pers.*
" fragiforme, *Pers.*
Diatrype disciformis, *Fr.*
Valsa nivea, *Fr.*
Depazea brunnea, *B. & C.*
" cruenta, *Fr.*
Asterina gaultheriæ, *Curt.*
Eustilbum rehmianum, *Rabenh.*

C.

LIST OF SPECIES OF WHICH SEEDS HAVE BEEN COLLECTED.

Clematis virginiana, *L.*
Hepatica acutiloba, *Chaix.*
Thalictrum dioicum, *L.*
" cornuti, *L.*
" purpurascens, *L.*
Ranunculus abortivus, *L.*
" recurvatus, *Poir.*
" fascicularis, *Michx.*
Aquilegia canadensis, *L.*
Caltha palustris, *L.*
Trollius laxus, *Salisb.*
Actæ spicata var. alba, *Michx.*
Corydalis glauca, *Pursh.*
Cardamine hirsuta, *L.*
Arabis hirsuta, *Scop.*
" canadensis, *L.*
Polanisia graveolens, *Raf.*
Viola pedata, *L.*
" pubescens v. scabriuscula.
Helianthemum canadense, *Mx.*
Parnassia caroliniana, *Michx.*
Hypericum ellipticum, *Hook.*
" canadense, *L.*
" sarothra, *Michx.*
Elodea virginica, *Nutt.*
Silene stellata, *Ait.*
" noctiflora, *L.*
Lychnis githago, *Lam.*
Arenaria grœnlandica, *Spreng.*
" serpyllifolia, *L.*
Lechea major, *Michx.*
Lechea minor, *Lam.*
" thymifolia, *Pursh.*
Drosera rotundifolia, *L.*
Mollugo verticillata, *L.*
Portulaca oleracea, *L.*
Malva rotundifolia, *L.*
Abutilon avicennæ, *Gært.*
Linum usitatissimum, *L.*
Geranium maculatum, *L.*
Rhus toxicodendron, *L.*
Vitis cordifolia, *Michx.*
Rhamnus alnifolius, *L'Her.*
Ceanothus americanus, *L.*
Lupinus perennis, *L.*
Melilotus officinalis, *Willd.*
" alba, *Lam.*
Robinia pseudacacia, *L.*
Lespedeza violacea, *Pers.*
Lathyris palustris, *L.*
Amphicarpæa monoica, *Nutt.*
Medicago lupulina, *L.*
Baptisia tinctoria, *R. Br.*
Geum virginianum, *L.*
Prunus virginiana, *L.*
Agrimonia eupatoria, *L.*
Rubus odoratus, *L.*
" strigosus, *Michx.*
" occidentalis, *L.*
" villosus, *Ait.*
" canadensis, *L.*
Rosa rubiginosa, *L.*
Rhexia virginica, *L.*
Œnothera biennis, *L.*
Epilobium hirsutum, *L.*
" coloratum, *Muhl.*
Ribes cynosbati, *L.*
Penthorum sedoides, *L.*
Saxifraga virginiensis, *Michx.*
Mitella diphylla, *L.*
" nuda, *L.*
Hamamelis virginica, *L.*
Daucus carota, *L.*
Pastinaca sativa, *L.*
Aralia nudicaulis, *L.*
Cornus canadensis, *L.*
" florida, *L.*
Lonicera oblongifolia, *Muhl.*
Viburnum opulus, *L.*
" acerifolium, *L.*
Mitchella repens, *L.*
Valeriana sylvatica, *Rich.*
Vernonia noveboracensis, *Willd.*
Eupatorium ageratoides, *L.*
" perfoliatum, *L.*
Diplopappus umbellatus, *T. & G.*
Iva frutescens, *L.*
Ambrosia trifida, *L.*
" artemisiæfolia, *L.*
Xanthium strumarium, *L.*

Helianthus giganteus, *L.*
" strumosus, *L.*
" decapetalus, *L.*
" divaricatus, *L.*
Bidens bipinnata, *L.*
Cirsium lanceolatum, *Scop.*
" discolor, *Spreng.*
" muticum, *Michx.*
Lappa major, *Gært.*
Krigia virginica, *Willd.*
Galinsoga parviflora, *Cav.*
Hieracium venosum, *L.*
" scabrum, *Michx.*
" gronovii, *L.*
" paniculatum, *L.*
Nabalus altissimus, *Hook.*
Taraxacum dens-leonis, *Desf.*
Lactuca canadensis, *L.*
Mulgedium leucophæum, *DC.*
Sonchus oleraceus, *L.*
Lobelia inflata, *L.*
Campanula rotundifolia, *L.*
Gaylussaccia resinosa, *T. & G.*
Vaccinium uliginosum, *L.*
Chiogenes hispidula, *T. & G.*
Gaultheria procumbens, *L.*
Kalmia latifolia, *L.*
" angustifolia, *L.*
" glauca, *Ait.*
Azalea nudiflora, *L.*
Ledum latifolium, *Ait.*
Chimaphila umbellata, *Nutt.*
Plantago maritima v. juncoides.
Epiphegus virginiana, *Bart.*
Verbascum blattaria, *L.*
" thapsus, *L.*
Linaria vulgaris, *Mill.*
Veronica officinalis, *L.*
Gerardia flava, *L.*
Pedicularis canadensis, *L.*
Mimulus ringens, *L.*
Verbena hastata, *L.*
Trichostema dichotomum, *L.*
Isanthus cœruleus, *Michx.*
Collinsonia canadensis, *L.*
Brunella vulgaris, *L.*
Lithospermum officinale, *L.*
Cuscuta gronovii, *Willd.*
Solanum dulcamara, *L.*
Physalis viscosa, *L.*
Datura stramonium, *L.*
Sabbatia stellaris, *Pursh.*
Menyanthes trifoliata, *L.*
Asclepias cornuti, *Decaisne.*
Phytolacca decandra, *L.*
Chenopodium album, *L.*
" glaucum, *L.*
" hybridum, *L.*
" urbicum, *L.*
Atriplex rosea, *L.*
" arenaria, *Nutt.*
Amarantus retroflexus, *L.*
Polygonum incarnatum, *Ell.*
" tenue, *Michx.*
" dumetorum, *L.*
" sagittatum, *L.*
" hydropiper, *L.*
" aviculare, *L.*
" persicaria, *L.*
Rumex verticillatus, *L.*
Lindera benzoin, *Meisner.*
Euphorbia polygonifolia, *L.*
Euphorbia platyphylla, *L.*
Empetrum nigrum, *L.*
Urtica urens, *L.*
Bœhmeria cylindrica, *Willd.*
Myrica gale, *L.*
" cerifera, *L.*
Comptonia asplenifolia, *Ait.*
Betula lenta, *L.*
" papyracea, *Ait.*
" alba v. populifolia, *Spk.*
Alnus viridis, *DC.*
" serrulata, *Ait.*
Pinus rigida, *Miller.*
Abies nigra, *Poir.*
Sparganium simplex, *Huds.*
Naias flexilis, *Rostk.*
Potamogeton claytonii, *Tuck.*
" oakesianus, *Robb.*
Scheuchzeria palustris, *L.*
Sagittaria variabilis, *Engelm.*
Corallorhiza multiflora, *Nutt.*
Sisyrinchium bermudiana, *L.*
Smilax glauca, *Walt.*
Trillium erectum, *L.*
" erythrocarpum, *Michx.*
Streptopus amplexifolius, *DC.*
Clintonia borealis, *Raf.*
Smilacina racemosa, *Desf.*

Asparagus officinalis, *L.*
Lilium canadense, *L.*
Juncus maritimus, *Lam.*
" marginatus, *Rostk.*
" bufonius, *L.*
" tenuis, *Willd.*
" articulatus, *L.*
" alpinus v. insignis, *Fr.*
" nodosus, *L.*
" canadensis, *J. Gay.*
Cyperus michauxianus, *Schultes.*
" grayii, *Torr.*
" filiculmis, *Vahl.*
" nuttallii, *Torr.*
Eleocharis obtusa, *Schultes.*
Scirpus pauciflorus, *Light.*
" pungens, *Vahl.*
" planifolius, *Muhl.*
Eriophorum alpinum, *L.*
" polystachyon, *L.*
Rhynchospora glomerata, *Vahl.*
Carex paùciflora, *Light.*
" siccata, *Dew.*
" teretiuscula, *Good.*
" vulpinoidea, *Michx.*
" rosea var. radiata, *Dew.*
Carex chordorhiza, *Ehrh.*
" canescens, *L.*
" deweyana, *Schwein.*
" stellulata, *L.*
" scoparia, *Schk.*
" lagopodioides, *Schk.*
" straminea, *Schk.*
" aquatilis, *Wahl.*
" stricta, *Lam.*
" limosa, *L.*
" irrigua, *Smith*
" laxiflora v. blanda, *Gray.*
" pedunculata, *Muhl.*
" emmonsii, *Dew.*
" pennsylvanica, *Lam.*
" arctata, *Boott.*
" extensa, *Good.*
" filiformis, *L.*
" vestita, *Willd*
" tentaculata v. gracilis.
" intumescens, *Rudge.*
" folliculata, *L.*
" monile, *Tuck.*
" lenticularis, *Michx.*
Panicum clandestinum, *L.*
Andropogon furcatus, *Muhl.*

D.

SPECIMENS OBTAINED BY CONTRIBUTION AND EXCHANGE.

From W. R. GERARD, *Poughkeepsie.*

Salsola kali, *L.*
Iris ochroleuca?
Leucanthemum vulgare v. tubuliflorum, *Tenney.*
Linaria vulgaris v. peloria.
Viola tricolor v. arvensis, *DC.*

From G. T. STEVENS, M. D., *Albany.*

Pinus inops, *Ait.*

From S. H. WRIGHT, M. D., *Penn Yan.*

Sedum telephioides, *Michx.*
Rosa rubiginosa, *L.*
Vallisneria spiralis, *L.*
Rumex orbiculatus, *Gray.*
Carex gynandra, *Schw.*

Carex extensa, *Good.*
" alata, *Torr.*
" intumescens, *Rudge.*
" retrorsa v. hartii, *Gray.*
" tuckermani, *Boott.*
" retroflexa, *Muhl.*
" stricta v. xerocarpa, *Gray.*

From E. L. HANKENSON, *Newark.*

Rosa setigera, *Michx.*
Vaccaria vulgaris, *Host.*
Scirpus pauciflorus, *Lightf.*
" smithii, *Gray.*
Nymphæa tuberosa, *Paine.*
Atriplex patula v. littoralis, *Gray.*
Polygonum incarnatum, *Ell.*
Potentilla paradoxa, *Nutt.*
Calendula officinalis, *L.*

From G. B. BRAINERD, *Brooklyn.* (Algæ mounted.)

Delesseria leprieurei, *Harv.*
Rhodomela rochei, *Harv.* 3 specimens.
Chylocladia baileyana v. divaricata, *Harv.*
Spyridia filamentosa, *Harv.*
Polysiphonia formosa, *Suhr.* 4 specimens.
" fastigiata, *Grev.*
" nigrescens, *Grev.*
Callithamnion corymbosum, *Ag.*
" byssoideum, *Arn.*
" americanum, *Harv.* 2 specimens.
Griffithsia corallina v. tenuis, *Harv.*
Cystoclonium purpurascens, *Kutz.*
Cladostephus spongiosus, *Ag.*
Asperococcus echinatus, *Grev.*
Dictyosiphon foeniculaceus, *Grev.*
Mesogloia vermicularis, *Ag.*?
Fucus ceranoides, *Ag.*
Sargassum bacciferum, *Ag.*
Punctaria tenuissima, *Grev.* 2 specimens.
Chætophora pisiformis, *Ag.*

From C. F. AUSTIN, *Closter, N. J.*

Cynosurus cristatus, *L.*
Danthonia compressa, *Aust.*
Dicranum schreberi, *Hedw.*
Barbula fallax, *Bry. Eur.*
Fissidens exiguus, *Sulliv.*
Homalia jamesii, *Schp.*
Leskea nervosa, *Schwaegr.*

From T. F. ALLEN, M.D., *New York.*

Wolffia columbiana, *Karsten.*

From V. COLVIN, *Albany.*

Homalia gracilis, *James.*

From B. D. GILBERT, *Utica.* (By exchange.)

Habenaria rotundifolia, *Richardson.*
Calypso borealis, *Salisb.*
Lamium album, *L.*
Viola cucullata, var., *Ait.*

From Hon. G. W. CLINTON, *Buffalo.*

Lunularia vulgaris, *Mich.*

From E. C. HOWE, M. D., *Fort Edward.*

Carex tuckermani, *Boott.*
" sparganioides, *Muhl.*
" stellulata v. scirpoides, *Gray.*
" vulpinoidea, *Michx.*
" scoparia, *Schk.*
" lagopodioides, *Schk.*
" cephalophora, *Muhl.*
" hystricina, *Willd.*
" lupulina, *Muhl.*
" retrocurva, *Dew.*
" irrigua, *Sm.*
Fimbristylis capillaris, *Gray.*
Cyperus grayii, *Torr.* Var.
Asplenium ebeneum, *Ait.* Var.
Onoclea sensibilis, *L.* Var. near obtusilobata, *Torr.*
Isoetes echinospora v. braunii, *Engelm.*
Anacamptodon splachnoides, *Brid.*
Hypnum nitens, *Schreb.* Var.
Agaricus mappa, *Batsch.*
" procerus, *Scop.*
" rachodes, *Vitt.*
" cristatus, *Bolt.*
" melleus, *Vahl.*
" laccatus, *Scop.*
" radicatus, *Bull.*
" velutipes, *Curt.*
" ochropurpureus, *Berk.*
" epipterygius, *Scop.*
" ostreatus, *Jacq.*
" salignus, *Pers.*
" semiorbicularis, *Bull.*

Agaricus semicaptus, *B. & C.*
" atroceruleus, *Fr.*
" applicatus, *Batsch.*
" curtisii, *Berk.*
" polychrous, *Berk.*
" campestris, *L.*
" arvensis, *Schæff.*
" cretaceus, *Fr.*
" sublateritius, *Schæff.*
" epixanthus, *Paul.*
" orcella, *Bull.*
" subinvolutus, *Batsch.*
" clypeatus, *L.*
" campanella, *Batsch.*
" galericulatus, *Pers.*
Paxillus atrotomentosus, *Fr.*
Hygrophorus cinnabarinus, *Fr.*
" ceraceus, *Fr.*
" conicus, *Fr.*
Lactarius indigo, *Fr.*
" subtomentosus, *B. & R.*
" fuliginosus, *Fr.*
Russula emetica, *Fr.*
Cantharellus tubæformis, *Bull.*
" albidus, *Fr.?*
" crispus, *Fr.*
Marasmius planeus, *Fr.*
" rotula, *Fr.*
Panus stypticus, *Fr.*
Schizophyllum commune, *Fr.*
Lenzites betulina, *Fr.*
" sepiaria, *Fr.*
" cratægi, *Berk.*
" bicolor. *Fr.*
Polyporus brumalis, *Fr.*
" boucheanus, *Fr.*
" giganteus, *Fr.*
" labyrinthicus, *Fr.*
" resinosus, *Fr.*
" applanatus, *Fr.*
" fomentarius, *Fr.*
" igniarius, *Fr.*
" subfuscus, *Fr.*
" caroliniensis, *B. & C.*
" carneus, *Nees.*
" cinnabarinus, *Fr.*
" radiatus, *Fr.*
" hirsutus, *Fr.*
" versicolor, *Fr.*
" abietinus, *Fr.*

Polyporus sullivantii, *Mont.*
" virgineus, *Schw.*
" medulla-panis.
" vaporarius, *Fr.*
" elegans, *Fr.*
" lepideus, *Fr.*
" scutellatus, *Schw.*
" laceratus, *Berk.*
" adustus, *Fr.*
Merulius tremellosus, *Schrad.*
Dædalea confragosa, *Bolt.*
Gloeoporus nigropurpurascens, *Schw.*
Fistulina hepatica, *Fr.*
Hydnum repandum, *L.*
" ochraceum, *Pers.*
" himantia, *Schw.*
" mucidum, *Pers.*
" adustum, *Schw.*
" laeticolor, *B. & C.*
Irpex tulipiferæ, *Schw.*
" cinnamomeus, *Fr.*
Thelephora terrestris, *Ehrh.*
" pallida, *Schw.*
Stereum striatum, *Fr.*
" complicatum, *Fr.*
" purpureum, *Pers.*
" hirsutum, *Fr.*
" rubiginosum, *Schrad.*
" imbricatulum, *Schw.*
" frustulosum, *Fr.*
" acerinum, *Fr.*
Corticium oakesii, *B. & C.*
" ochroleucum, *Fr.*
" cinereum, *Fr.*
" scutellatum. *B. & C.*
Cyphella capula, *Fr.*
" muscicola, *Fr.*
Clavaria inæqualis, *Fr.*
Pistillaria muscicola, *Fr.*
Tremella mesenterica, *Retz.*
" sarcoides, *With.*
Exidia truncata, *Fr.*
" cinnabarina, *B. & C.*
Dacrymyces stillatus, *Fr.*
" tortus, *Fr.*
Ptychogaster albus, *Corda.*
Lycoperdon gemmatum, *Batsch.*
Bovista cyathiformis, *Bosc.*
Geaster hygrometricus, *Pers.*
Lycogala epidendrum, *L.*

Æthalium septicum, *Fr.*
Physarum nūtans, *Pers.*
Stemonitis ferruginea, *Ehrh.*
Dictydium microcarpum, *Schrad.*
Trichia clavata, *Pers.*
" turbinata, *With.*
Cyathus crucibulum, *Pers.*
Sphærobolus stellatus, *Tode.*
Mycrothyrium microscopicum, *Desm.*
Diplodia viticola, *Desm.*
Sphæropsis insignis, *B. & C.*
Vermicularia liliacearum, *Schw.*
Septoria herbarum, *B. & C.*
Stilbospora ovata, *Pers.*
" pyriformis, *Hoffm.*
Cytispora rubescens, *Fr.*
" leucosperma, *Fr.*
Nemaspora crocea, *Pers.*
Myxosporium nitidum, *B. & C.*
Torula herbarum, *Pers.*
Septonema spilomeum, *Berk.*
Puccinia aculeata, *Schw.*
" graminis, *DC.*
" solida, *Schw.*
" waldsteiniæ, *Curt.*
" junci, *Schw.*
" investita, *Schw.*
Uredo rubigo, *DC.*
" caricina, *DC.*
" epitea, *Kze,*
" polygonorum, *DC.*
" solidaginis, *Schw.*
" cylindrica, *Strauss.*
" potentillæ, *DC.*
" ruborum, *DC.*
" luminata, *Schw.*
" effusa, *Strauss.*
" pyrolæ, *Strauss.*
" saliceti, *Schl.*
" violarum, *DC.*
Uromyces lespedezæ-violaceæ, *Schw*
" lespedezæ-procumbentis, *Schw.*
" hyperici, *Schw.*
" apiculosa, *Lev.*
Ustilago segetum, *Pers.*
" junci, *Schw.*
Æcidium compositarum, *Mart.*
" gnaphaliatum, *Schw.*
" hydnoideum, *B. & C.*
Cystopus candidus, *Lev.*

Epicoccum micropus, *Corda.*
Tubercularia vulgaris, *Tode.*
" granulata, *Pers.*
Sporocybe calicioides, *Fr.*
Helminthosporium macrocarpon, *Grev.*
Podosporium rigidum, *Schw.*
Polythrincium trifolii, *Kze.*
Cladosporium herbarum, *Lk.*
Penicillium crustaceum, *Fr.*
Helvella esculenta, *L.*
Geoglossum hirsutum, *Pers.*
" difforme, *Fr.*
Peziza translucida, *B. & C.*
" viticola, *Pers.*
" sanguinea, *Pers.*
" lenticularis, *Fr.*
" citrina, *Batsch.*
" herbarum, *Pers.*
" compressa, *A. & S.*
" flexella, *Fr.*
Solenia candida, *Pers.*
Ascobolus conglomeratus, *Schw.*
Bulgaria inquinans, *Fr.*
Sphinctrina turbinata, *Fr.*
Patellaria discolor, *Mont.*
" rhabarbarina, *Berk.*
Urnula craterium, *Fr.*
Dermatea fascicularis, *Fr.*
Cenangium populinum, *Schw.*
" ribis, *Fr.*
" pinastri, *Fr.*
Dichæna faginea, *Fr.*
Rhytisma solidaginis, *Schw.*
" vaccinii, *Fr.*
" acerinum, *Fr.*
" punctatum, *Fr.*
" salicinum, *Fr.*
" blakei, *Curt.*
Phacidium coronatum, *Fr.*
" crustaceum, *B. & C.*
Hysterium elongatum, *Wahl.*
" hiascens, *B. & C.*
" lineare, *Fr.*
" pinastri, *Schrad.*
Xylaria polymorpha, *Pers.*
" hypoxylon, *Ehrh.*
Hypocrea lactifluorum, *Schw.*
" citrina, *Pers.*
" rufa, *Pers.*
" richardsonii, *B. & M.*

Hypoxylon ustulatum, *Bull.*
" mammularium, *Bull.*
" clypeus, *Schw.*
" multiforme, *Fr.*
" coherens, *Pers.*
" fuscum, *Pers.*
" rubiginosum, *Pers.*
" serpens, *Pers.*
Diatrype stigma, *Fr.*
Valsa stilbostoma, *Fr.*
" americana, *B. & C.*
" constellata, *B. & C.*
Nectria cinnabarina, *Fr.*
" cucurbitula, *Fr.*
Sphæria ovina, *Pers.*
" pulvis-pyrius, *Pers.*
" myriocarpa, *Fr.*
" papilla, *Schw.*
" pertusa, *Pers.*
" fissurarum, *B. & C.*
" saubineti, *Mont.*
" picea, *Pers.*
" rostrata, *Fr.*
" ulmea, *Schw.*
" lespedezæ, *Schw.*
" limæformis, *Schw.*
" aculeata, *Schw.*
" acuminata, *Sow.*
" nigrella, *Fr.*
" verbascicola, *Schw.*
" potentillæ, *Schw.*
" punctiformis, *Pers.*
" fusca, *Pers.* Var.
" disciformis, *Hoffm.*
" coryli, *Batsch.*
" fimbriata, *Pers.*
" quercina, *Pers.*
" epidermidis v. microscopica, *Desm.*
" desmazierii, *B. & Br.*
" nivea, *Hoffm.*
" sordaria, *Fr.*
Dothidea omans, *Schw.*
Erysiphe communis, *Schl.*
" ceanothi, *Schw.*
Phyllactinia guttata, *Lev.*
Asterina gaultheriæ, *Curt.*
Erineum fagineum, *Pers.*
" luteolum, *Kze.*
" alnigerum, *Kze.*
" aureum, *Pers.*

Erineum vitis, *DC.*
Sclerotium orobanches, *Schw.*
" varium, *Pers.*

E.

EDIBLE FUNGI.

Agaricus procerus, *Scop.*
" rachodes, *Vitt.*
" melleus, *Vahl.*
" personatus, *Fr.*
" nebularis, *Batsch.*
" radicatus, *Bull.*
" ostreatus, *Jacq.*
" salignus, *Pers.*
" prunulus, *Scop.*
" campestris, *L.*
" arvensis, *Schaff.*
" orcella, *Bull.*
Coprinus comatus, *Fr.*
" atramentarius, *Bull.*
Lactarius piperatus, *Fr.*
" angustissimus, *Lasch.*
" volemus, *Fr.*
Russula alutacea, *Fr.*
Marasmius oreades, *Fr.*
Boletus bovinus, *L.*
" elegans, *Fr.*
" scaber, *Bull.*
Polyporus ovinus, *Schaff.*
" giganteus, *Fr.*
" sulphureus, *Fr.*
Fistulina hepatica, *Fr.*
Hydnum repandum, *L.*
" coralloides, *Scop.*
Clavaria botrytis, *Pers.*
Tremella mesenterica, *Retz.*
Bovista plumbea, *Pers.*
Morchella esculenta, *Pers.*
Helvella esculenta, *L.*

F.

SPECIES GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

ELATINE CLINTONIANA, *sp. nov.*

Slender, erect; leaves cuneate oblong or narrowly obovate; flowers with conspicuous rose-red or purplish, spreading petals; seeds slightly curved, ribbed and pitted.

Stems cæspitose, slender, simple, erect, abundantly rooting at the base, 3″–10″ high; leaves sessile, varying from oblong to oblanceolate and narrowly obovate, obtuse, tapering to the base, rather fleshy, very obscurely nerved, entire, minutely whitish glandular-dotted; flowers sessile, single in the axils of the leaves, dimerous; sepals oblong-ovate, obtuse, shorter than the petals and about one-third as broad; petals broadly ovate or suborbicular, obtuse, spreading, twice the length of the ovary, rose-red or purplish; stamens longer than the sepals, scarcely as long as the petals, with globose anthers; stigmas nearly sessile, contiguous, persistent; capsule subglobose often slightly depressed at the apex, usually four to eight seeded; seeds nearly straight, longitudinally ribbed, pitted in rows.

Rocky shores of Bowman's pond, Sandlake, Rensselaer county. July and August.

This plant forms quite extensive and rather dense turfs or patches. The smaller forms have three or four pairs of leaves, narrow and nearly uniform in width, and one or two purplish red flowers, all clustered or closely placed at the top of the stem, the lower part of which is naked, or furnished with long, slender rootlets. The larger plants have the leaves broader, more distantly inserted, more tapering toward the base, the flowers more numerous and paler or rose-red. A cross section of the stem reveals eight tubes formed by thin dissepiments radiating from the center.

The distinctive characters of the species, when compared with *E. americana*, are found in its more dense, erect mode of growth, smaller size, more slender stems, more narrow leaves, and especially in its conspicuous, spreading, bright-colored petals. The seeds also furnish distinctive but microscopic characters. They are shorter, less curved, more distinctly ribbed longitudinally, less wrinkled transversely, the impressions shorter, more regular in outline and more distantly placed, the interspaces being usually almost as wide as the impressions. In the seeds of *E. americana*, the interspaces are narrow and more elevated, so that when viewed under the microscope by transmitted light, these elevations or wrinkles appear along the margins of the seed like rows of papillæ.

It gives me great pleasure to dedicate this neat little species to my much esteemed friend and active co-laborer in botany, the Hon. G. W. Clinton.

AMORPHA FRUTICOSA, *L.*

Banks of the Hudson below Greenbush. Doubtless escaped from some garden.

RUBUS NEGLECTUS, *sp. nov.*

Stems recurved, armed with numerous straight prickles; berries dark red, having a whitish bloom; calyx hispid.

Stems long, recurved, when young covered with a glaucous bloom, armed with numerous rather strong, straight prickles, those on the flowering branches and petioles sometimes recurved; leaves trifoliate, the leaflets ovate-acuminate, coarsely and doubly serrate, green above, white tomentose beneath, with rather prominent anastomosing veinlets, lateral ones sessile, terminal one often unequally two or three lobed and subcordate; flowers on ascending or erect branches, axillary and subcorymbose, the pedicels armed with unequal slender prickles, intermingled with stiff, glandular hairs; calyx hispid; fruit dark clouded red, with a whitish tomentose bloom. Flowers in June, fruit ripe in July. Sandlake. Not common.

This species is intermediate between *R. strigosus* and *R. occidentalis*, and combines to a considerable extent the characters of both. From the former it may be distinguished by its mode of growth (which is exactly like that of *R. occidentalis*), long recurved stems and stout prickles; from the latter by its more numerous, straight prickles, sessile lateral leaflets and hispid calyx; from both by the color and flavor of its berries. These have a peculiarly agreeable taste, which probably suggested the name "*Cream Berries*," by which the fruit is known to the inhabitants of the locality above mentioned.

It occurs sparingly in recently cleared lands, associated with its nearly allied species. It is recommended to the attention of gardeners and fruit growers as worthy of cultivation.

It seems to have been previously known to some of our botanists, but was probably considered a sportive form of one or another of its congeners, in view of which a name has been given indicative of its supposed past treatment.

CALENDULA OFFICINALIS, *L.*

Newark, Wayne county. E. L. Hankenson. A garden scape.

VACCINIUM CÆSPITOSUM, *Michx.*

Summit of Mt. Whiteface, Essex county.

LAMIUM ALBUM, *L.*

Roadsides, Herkimer county. B. D. Gilbert. Introduced.

MENTHA ARVENSIS, *L.*

North Greenbush. Introduced.

PINUS MOPS, *Ait.*

Barren plains west of Keeseville; also, near Wadham's Mills, Essex county. G. T. Stevens. New Jersey has been considered the northern limit of this species, and its occurrence two hundred and fifty miles farther north without intervening stations is truly remarkable, and affords another instance of remotely isolated stations. There are about a half dozen trees near Wadham's Mills, from five to eight feet high, some larger ones having been recently cut down.

POTAMOGETON OAKESIANUS, *Robbins.*

Bowman's pond, Sandlake. The specimens referred to this species do not quite agree with the description. The stems are not much branched, but nearly or quite simple; yet the leaves and fruit agree so exactly with the characters ascribed to this species that our specimens are referred to it without hesitation.

POTAMOGETON AMPLIFOLIUS, *Tuck.*

North Elba, Essex county.

FAGOPYRUM TARTARICUM, *Gært.* (*Fagotriticum sibiricum, L.*)

Escaped from cultivation to roadsides and waste places. North Elba.

IRIS OCHROLEUCA. (?)

The plant here noticed is a large, yellow flowered species; probably a garden scape. Essex county. Dr. Stevens. Near Poughkeepsie. W. R. Gerard.

JUNCUS MARITIMUS, *Lam.*

Coney Island. The plant under consideration is believed to be the true *J. maritimus*, now found in this country for the first time, the *J. maritimus* of American authors having been shown by Dr. G. Engelmann, in Revision N. A. Junci, to be *J. Ræmerianus*, Scheele. Probably introduced.

JUNCUS ALPINUS VAR. INSIGNIS, *Fries.*

Shore of Lake Champlain, near Port Kent. The heads have more flowers than usual, there being 8–12 in each.

CAREX ALATA, *Torr.*

Swamps, Junius, Seneca county. S. H. Wright.

DANTHONIA COMPRESSA, *sp. nov.*

"Stems compressed-trigonal, the narrowest side concave, the others convex, slender (one foot high), decumbent at the base, weak, smooth or minutely roughened below the joints. Leaves very long, narrow and flat, minutely roughened on the margins

and veins, the sheaths smooth. Ligule with long silky fringes. Spikelets racemose-paniculate, about ten. Glumes 4½"–5" long, acute, concave, smooth, 3-nerved, with broad white margins, equal. Florets with a tuft of silky hairs at base; lower palet ovate, bifid, the teeth very slender (1½" long), clothed with silky hairs in seven lines, and on the margins below (membranaceous and naked above on the margin), awn about twice as long as the palet, flat and twisted below but scarcely colored; inner palet membranaceous, nerveless, ciliate." *Austin MSS.*

Woods. Danube, Herkimer county, July, 1868. C. F. Austin. Rare.

Compared with *Danthonia spicata*, this species differs in its longer leaves,—the upper ones overtopping the panicle,—its looser panicle and more numerous spikelets, the longer teeth of the lower palet and the tuft of hairs at the base of the florets.

CHARACEÆ.

NITELLA FLEXILIS, *Ag.*

Ponds and slow flowing streams. Sandlake and North Elba.

NITELLA MUCRONATA VAR. FLABELLATA, *Kutz.*

Lower Saranac Lake.

NITELLA ACUMINATA VAR. GLOMERULIFERA, *A. Braun.*

Lower Saranac Lake. Rare.

CHARA CORONATA, *Ziz.*

This species, with its semi-transparent stems and branches, destitute of cortical incrustation, might at first sight be mistaken for a Nitella. It grows in shallow water in Saranac lake, intermingled with the two preceding species.

CHARA FRAGILIS, *Desv.*

Mud Lake, Herkimer county. A small form with long bracts; sometimes cinerescent.

CHARA FŒTIDA, *A. Braun.*

(*C. vulgaris* of authors, in part.) Common, especially in limestone regions. Our specimens are from Albany, Schenectady and Herkimer counties.

CHARA CONTRARIA, *A. Braun.*

Cedar Lake, Litchfield, Herkimer county. Much of the bottom of the lake is covered with this and the two preceding species, the plants ranging from a few inches to two or three feet in length. In no other part of the State have I seen the Charæ so abundant as in the southern towns of Herkimer county.

MUSCI.

SPHAGNUM GIRGENSOHNII, *Russow.*

Sphagnous swamps. Common. July. This moss resembles large forms of *S. acutifolium*. Its branches, however, are generally longer and more distant, the stems thicker, and, when moist, more brittle. When viewed from above in its native swamps it usually presents a more stellate appearance, its five-ranked branches being less condensed at the summit of the stem than they are in that species. I have seen no red specimens, which are so common in *S. acutifolium*. Its inflorescence is dioecious. A form occurs on the moist rocks of the Adirondack Mountains not unlike *S. teres* in general appearance.

SPHAGNUM WULFIANUM, *Girgen.*

Knolls and slight elevations in sphagnous swamps. Moreau, Saratoga county. E. C. Howe. Sandlake. Sterile.

A species easily recognized by its rigid red stems and numerous short branches, those at the summit of the stem being crowded into a dense subglobose head.

SPHAGNUM RECURVUM, *Beauv.*

Swamps and bogs. Common. July. This species has been considered by some to be only a variety of *S. cuspidatum*, but it will probably prove to be a good species. It is not difficult to separate it from the various forms of *S. cuspidatum*, its branches being more uniform in length and curvature, and the leaves evenly ranked and considerably recurved. The spores are yellow.

SPHAGNUM LARICINUM, *Lindbg.*

Cranberry marsh, Sandlake; its only known locality in this country. August.

A variety closely resembling *S. cuspidatum*.

ANODUS DONIANUS, *Bryol. Europ.*

Shaded rocks. Little Falls. July. Not yet found elsewhere in this country, but collected by Drummond in British America. It is an extremely small species.

PALUDELLA SQUARROSA, *L.*

Swamps. Arcadia, Wayne county. Hankenson. Warren, Herkimer county. Sterile. Found in British America by Drummond. A very pretty moss—the bright green, recurved-squarrose leaves contrasting beautifully with the dense reddish brown radicular tomentum.

AMPHORIDIUM PECKII, *sp. nov.*

"Plantæ subunciales, compacte cæspitosæ, superne flavidulo-virides, inferne rufescentes, tomento radiculari arcte intertextæ. Caulis innovando fastigiato-ramosus. Folia conferta humida erecto-patentia, sicca crispata, lineari-lanceolata sensim acutissima, supra basim perbrevem ovatam concavam subamplexantem leniter constricta dehinc carinato-subcomplicata, margine (ut folii utraque pagina) plus minus minute papilluloso, erecto; costa tereti valida subapicem finiente; areolatione densa guttulata, cellulis basis mediæ oblongis margines versus minoribus quadratis. Flores masculi numerosi, singuli vel aggregati, axillares; antheridiis 5–7, paraphysatis; perigonialibus interioribus superne serrulatis. Flores feminei et fructus desiderantur."—*Sullivant MSS.*

"In size and general aspect this moss resembles *A. lapponicum* and *A. mougeotii*, but is distinguished by its broader leaf differently areolated, and with a slight but evident constriction above its base." *Sullivant.*

Under overhanging rocks, Catskill Mountains, Greene county.

This moss was found growing in a single patch three or four feet in diameter. The growth is quite dense, the stems are simple or fastigiately branched, mostly about one inch high; the leaves are numerous, closely imbricating, the upper ones yellowish green, the lower ones dull reddish brown, intermingled with a short, close, radicular tomentum, all linear lanceolate, rather abruptly sharp pointed, slightly constricted above the base, more or less minutely papillose, densely areolated, the areolæ of the middle of the base oblong, towards the margins smaller and quadrate. The foliage is crisped when dry, erect-spreading when moist. It opens under th influence of moisture much more slowly than does that of *A. lapponicum* or of *A. mougeotii*. When moist the greater density of the foliage and the broader leaves give to the plant an appearance quite distinct from the two closely related species, which appearance enables it to be distinguished from them quite readily without a microscopic examination.

COSCINODON PULVINATUS, *Bryol Europ.*

Exposed surfaces of rocks. Catskill Mountains. New to this country. The specimens are without fruit, and to that extent the species must remain in doubt.

AMBLYODON DEALBATUS, *Beauv.*

Thin soil covering rocks, near Cedarville, Herkimer county.

BRYUM CONCINNATUM, *Grev.*

Crevices of rocks. Catskill Mountains. Sterile.

HOMALIA GRACILIS, *James in lit. Sp. nov.*

Stems slender, irregularly subpinnately branched, prostrate or ascending, bright shining green; branches unequal, more or less

distantly placed, often long-attenuated; leaves unequal, loosely imbricating, ovate-oblong, very obtuse, subapiculate, minutely toothed toward the apex, the lower margin slightly excavated, incurved; areolation subrhomboidal, longer in the middle of the base of the leaf; costa obsolete or none. Fruit wanting.

Rocks. Helderberg Mountains. V. Colvin. Sandlake. The stems often appear interruptedly leafy, the leaves being in certain places greatly reduced in size. They are also minute on the attenuated part of the branches. The larger ones are subdistichously arranged, and the areolation is rather large. This plant was first discovered by Mr. T. P. James, who has given the very appropriate specific name under which it is here described.

HYPNUM SCORPIOIDES, *L.*

Marshes. Litchfield, Herkimer county. I believe the discovery of this species in our State belongs to Rev. J. A. Paine, Jr., by whom the locality was made known to me.

PLAGIOTHECIUM TURFACEUM, *Lindbg.*

Ground and old logs in woods. Fort Edward, E. C. Howe. Warwick Mountains, C. F. Austin. Helderberg Mountains.

A species closely resembling *P. muhlenbeckii*, and possibly running into it, though I have noticed no intermediate forms. It is distinguished by the more narrow elongated areolation of the leaves, and the less enlarged cells at their basal angles.

PLAGIOTHECIUM PILIFERUM VAR. BREVIPILUM, *Bryol Europ.*

Under overhanging rocks and on thin soil in crevices. Catskill and Adirondack Mountains. Very rare. Sterile. It may prove to be a good species.

HEPATICÆ.

RICCIA SULLIVANTII, *Austin in lit. Sp. nov.*

Frond with air cavities, green both sides, orbicular, 5"–8" in diameter, repeatedly dichotomously divided, the laciniæ oblong-linear, plane when moist, channeled above when dry, apices obtuse, bilobed; upper surface becoming many-pitted with age, especially toward the base; lower surface bearing copious, long filamentous rootlets; capsule single at or near the furcations, bursting from the lower surface of the frond; spores dark brown, reticulated, about $\frac{1}{250}$ of an inch in diameter.

Low grounds in cultivated fields. New Lots, Long Island, September.

JUNGERMANNIA SETIFORMIS, *Ehrh.*

Rocks. Top of Mt. McIntyre.

JUNGERMANIA DIVARICATA, *Eng. Bot.*

On mosses. Catskill and Adirondack Mountains.

RADULA PALLENS, *Nees.*

Shaded rocks. Catskill Mountains. Sterile. Not common.

LICHENS.

USNEA BARBATA VAR. FLORIDA, *Fr.*

Trees, especially in mountain woods. Common and fertile.

USNEA BARBATA VAR. HIRTA, *Fr.*

Old rail and board fences. Common, but sterile.

USNEA BARBATA VAR. DASYPOGA, *Fr.* Trees on mountains.

USNEA LONGISSIMA, *Ach.*

Trees. Adirondack Mountains.

This and the preceding species are plentiful in low woods in North Elba, frequently giving a peculiar gray hue to whole tracts of balsam firs, which trees are especially subject to the attacks of these parasites. The opinion is prevalent among the inhabitants that the "gray moss" causes the death of the tree on which it grows. Certainly no thrifty tree can be found with an abundance of these lichens upon it. All thus infested are either dead or apparently dying, the leaves being limited to the mere extremities of the branches. The inference is that the lichens have induced the death or the diseased condition of the tree. It is probable that this is to some extent true, and yet, on the other hand, the death of the tree from other causes affords conditions favorable to the growth of the lichen. The shore of Lake Placid is in some places bordered by dead trees loaded with these same species of Usnea. These trees were killed by the inundation of their roots, the water of the lake having been raised by a dam at its outlet, and, so far as can be ascertained, they were destitute of these lichens while living.

ALECTORIA JUBATA VAR. CHALYBEIFORMIS, *Ach.*

Trees, old fences, and sometimes on rocks. Common, but sterile.

ALECTORIA JUBATA VAR. IMPLEXA, *Fr.*

Trees in mountain woods. Adirondack Mountains. Sterile.

EVERNIA PRUNASTRI, *Ach.*

Trees and old fences. Fertile specimens were found on trees and on shrubs in a swamp, Catskill Mountains.

EVERNIA FURFURACEA, *Mann.*

Trees in woods. Common.

EVERNIA FURFURACEA VAR. CLADONIA, *Tuck.*

Trees. Catskill and Adirondack Mountains. Sterile.

RAMALINA CALICARIS VAR. FASTIGIATA, *Fr.*

Trunks and branches of trees, shrubs and old fences. Very common.

RAMALINA CALICARIS VAR. FARINACEA, *Schaer.*

Rocks; sometimes on trees. Sterile.

RAMALINA CALCARIS VAR. INFLATA, *Tuck.*

Trunks of pine trees. Saranac Lake.

CETRARIA ACULEATA, *Fr.*

Summit of Mt. Whiteface. Sterile.

CETRARIA ISLANDICA, *Ach.*

Tops of the high peaks of the Adirondack Mountains. Edible. This is the well-known "*Iceland moss*," a nutritious, and, in some northern regions, almost a necessary article of food for both man and beast.

CETRARIA CUCULLATA, *Ach.*

Summit of Mount Whiteface.

CETRARIA CILIARIS, *Ach.*

Trunks and branches of coniferous trees, old fences, etc. Very common.

CETRARIA LACUNOSA, *Ach.*

Coniferous trees, dead branches and old rails. Common in mountainous regions.

CETRARIA OAKESIANA, *Tuck.*

Trees. Catskill Mountains.

NEPHROMA ARCTICUM, *Fr.*

Rocks. Adirondack Mountains. A northern species, as its name implies, which will hardly be found south of the Adirondack region.

NEPHROMA TOMENTOSUM, *Kœrb.*

Granite rocks and boulders. Sandlake.

NEPHROMA HELVETICUM, *Ach.*

Rocks. Sandlake and Catskill Mountains.

NEPHROMA LÆVIGATUM, *Ach.*

Granite rocks. Sandlake and Adirondack Mountains.

NEPHROMA LÆVIGATUM VAR. PAPYRACEUM, *Schaer.*

Trees in swamps. Near Jordanville, Herkimer county.

SOLORINA SACCATA, *Ach.*

Limestone rocks among mosses. Helderberg Mountains.

PELTIGERA APHTHOSA, *Hoffm.*

Shaded mossy banks, ground and old logs in woods. Extremely common, and easily known by the wart like spots on the thallus.

PELTIGERA CANINA, *Hoffm.*

Ground, rocks and old logs in woods. Very common. A small form occurs on the dry, sandy barrens between Albany and Schenectady.

PELTIGERA POLYDACTYLA, *Hoffm.*

Rocks and old logs in woods, especially in mountainous districts. Not rare.

PELTIGERA HORIZONTALIS, *Hoffm.*

Rocks and decaying wood in hilly or mountainous districts. Sandlake, Helderberg and Catskill Mountains.

A large form with crisped margins and under surface uniformly dark brown, except toward the margin, which is whitish, occurs in mountain swamps. Summit Lake.

STICTA PULMONARIA, *Ach.*

Trunks of deciduous trees and on rocks. Fertile specimens have been seen by me only on trees in the woods of the Catskill and the Adirondack Mountains. In the former locality specimens were found with a curiously morbid state of the apothecia. These were scattered abundantly over the upper surface of the thallus and sparingly over the under surface, and had a black disk.

The *Lungwort lichen* once was held in considerable repute as a remedy in pulmonary complaints, and is used to some extent at the present time. It is also said to have been used as food.

STICTA GLOMERULIFERA, *Delise.*

Trunks of deciduous trees, sometimes on rocks. Very common in woods, and fruits abundantly.

STICTA QUERCIZANS, *Ach.*

Granite rocks. Sandlake. Sterile.

STICTA SYLVATICA, *Ach.*

Red sandstone rocks among mosses. Catskill Mountains. Sterile. An extremely rare species.

PARMELIA PERLATA, *Ach.*

Trunks of trees and granite rocks. Common.

PARMELIA PERLATA var. OLIVETORUM, *Ach.*

Exposed granite rocks. Sterile.

PARMELIA CRINITA, *Ach.*

Trees. Sandlake. Sterile.

PARMELIA TILIACEA, *Ach.*

Trunks of trees, rarely on old fences. Common.

PARMELIA SAXATILIS, *Ach.*

Trees and old fences. Common.

PARMELIA PHYSODES var. ENTEROMORPHA, *Tuck.*

Trunks of trees in mountain woods.

PARMELIA PERTUSA, *Schaer.*

Trees. Sandlake. Sterile.

PARMELIA OLIVACEA, *Ach.*

Trunks of trees. Common.

PARMELIA STYGIA, *Ach.*

Granite rocks. Top of Mount Whiteface.

PARMELIA CAPERATA, *Ach.*

Trunks of trees. Common, but sterile.

PARMELIA CONSPERSA, *Ach.*

Rocks and boulders. Common everywhere, and fruits abundantly.

PARMELIA BORRERI, *Turn.* Fort Edward, Howe.

THELOSCHISTES PARIETINUS, *Norm.*

Trunks of willow and ailanthus trees, also on old fences. Greenport, L. I.

THELOSCHISTES PARIETINUS var. POLYCARPUS, *Fr.*

Trunks and branches of trees in exposed places. Often associated with *Physcia stellaris* on apple and willow trees. Common.

THELOSCHISTES CHRYSOPHTHALMUS, *Th. Fr.*
Trunks of trees. Greenport.

PHYSCIA STELLARIS, *Wallr.*
Trunks and branches of trees, rocks, stone walls, etc. Very common and variable.

PHYSCIA STELLARIS VAR. TRIBRACIA, *Fr.*
Trunks of juniper, also on stones. Not rare.

PHYSCIA AQUILA VAR. DETONSA, *Tuck.*
Mossy rocks and about the base of trees. Common.

PHYSCIA PULVERULENTA, *Fr.*
Rocks. Catskill Mountains. Sterile.

PHYSCIA SPECIOSA, *Ach.*
Trunks of trees. Jordanville.

PHYSCIA SPECIOSA VAR. LEUCOMELA, *Eschw.*
Trees, mostly in swamps and mountain woods. Sterile.

PHYSCIA CÆSIA VAR. ANGUSTIOR, *Fr.*
Rocks. Catskill Mountains.

PHYSCIA OBSCURA, *Nyl.*
Trunks of trees in woods. Sandlake.

PHYSCIA OBSCURA VAR. ERYTHROCORDIA, *Tuck.*
Rocks. Catskill Mountains.

PYXINE COCOES VAR. SOREDIATA, *Tuck.*
Rocks and trunks of trees. Sandlake and Adirondack Mountains.

PANNARIA LANUGINOSA, *Ach.*
Rocks. Common on mountains and rocky precipices. Without apothecia, and frequently a mere greyish pulverulent mass.

PANNARIA MICROPHYLLA, *Mass.*
Rocks. Bethlehem, Albany county.

PLACODIUM AURANTIACUM, *Lightf.*
Old fences. Bethlehem.

PLACODIUM AURANTIACUM VAR. FLAVOVIRESCENS, *Fr.*
Rocks. Troy.

PLACODIUM CINNABARINUM, *Ans.*
Fort Edward. Howe.

PLACODIUM RUPESTRE, *Tuck.*
Rocks. Helderberg Mountains.

LECANORA PALLESCENS, *Schær.*
Trunks of trees. Common.

LECANORA PALLIDA, *Schær.*
Trunks of trees. Not rare.

LECANORA TARTAREA, *Ach.*
Rocks and trunks of trees. Common in hilly and mountainous districts. The "*Cudbear*" of commerce, so freely used for coloring purposes.

LECANORA TARTAREA VAR. FRIGIDA, *Ach.*
Incrusting mosses. Top of Mount McIntyre.

LECANORA SUBFUSCA, *Ach.*
Trunks of trees in woods. Very common and quite variable in appearance.

LECANORA VARIA, *Ach.*
Trees and old fences. Common.

LECANORA ELATINA VAR. OCHROPHÆA, *Tuck.*
Trunks of balsam firs in mountain woods. Mt. Whiteface.

LECANORA MURALIS, *Schær.* (*L. saxicola, of authors.*)
Rocks. Catskill Mountains.

LECANORA CINEREA, *Fr.*
Rocks. At a little distance this lichen causes the surface of the rock, on which it grows plentifully, to appear as if bruised or indented by frequent blows of a large hammer.
Specimens from the red sandstone of the Catskill Mountains have to some extent the color of those rocks.

LECANORA ATRA, *Ach.*
Granite rocks. Poestenkill, Rensselaer county.

UECEOLARIA SCRUPOSA, *Ach.*
Rocks. Common.

GYALECTA LUTEA, *Tuck.*
Trees. Jordanville.

LECIDEA CONTIGUA, *Fr.*
Rocks. Common.

LECIDEA CONTIGUA VAR. ALBO-CŒRULESCENS, *Nyl.*
Rocks. Bethlehem. Less common.

LECIDEA ENTEROLEUCA, *Fr.*
Trunks of trees. Catskill Mountains.

LECIDEA SANGUINARIA, *Ach.*
Balsam firs. Mt. Whiteface.

BUELLIA PARASEMA, *Kœrb.*
Trunks of trees in woods. Very common.

BUELLIA LACTEA, *Kœrb.*
Rocks. Bethlehem.

BUELLIA PETRÆA, *Tuck.*
Rocks. With the preceding and apparently more common.

BUELLIA MYRIOCARPA, *Tuck.*
Board fences. Bethlehem.

BIATORA ATROPURPUREA, *Tuck.*
Trunks of trees in mountain woods. Not rare.

BIATORA RUFO-NIGRA, *Tuck.*
Rocks. Bethlehem and Catskill Mountains.

BIATORA SANGUINEO-ATRA, *Fr.*
Ground and mosses in mountainous districts. Helderberg Mountains.

BIATORA CHLORANTHA, *Tuck.*
Trunks of trees. Catskill Mountains.

BIATORA VIRIDESCENS, *Fr.*
Rotten wood and ground. Not rare.

BIATORA VERNALIS, *Fr.*

Trunks of trees and incrusting mosses. Catskill Mountains and North Elba.

BIATORA RUBELLA, *Tuck.*

Trees. Fort Edward. Howe.

BEOMYCES ÆRUGINOSUS, *DC.* (*Biatora icmadophila*, Auct.)

Rotten wood and earth in woods. Near Summit Lake, Otsego county.

BEOMYCES ERICETORUM, *DC.*

Ground in woods. Sandlake.

PILOPHORON FIBULA, *Tuck.*

Rocks. North Elba.

STEREOCAULON PASCHALE, *Ach.*

Rocks on mountains. Catskill and Adirondack Mountains.

STEREOCAULON TOMENTOSUM, *Fr.*

Rocks and thin soil in rocky places. Adirondack Mountains.

CLADONIA CÆSPITICIA, *Fl.*

Rocks. North Greenbush.

CLADONIA PYXIDATA, *Fr.*

Rocky ground. Very common.

CLADONIA PYXIDATA VAR. SYMPHICARPA, *Fr.*

Catskill Mountains.

CLADONIA GRACILIS, *Fr.*

Rocky ground. Extremely common and variable.

CLADONIA GRACILIS VAR. HYBRIDA, *Fr.*

Rocks and old logs. Catskill and Helderberg Mountains.

CLADONIA GRACILIS VAR. ELONGATA, *Fr.*

Ground. High peaks of the Adirondack Mountains.

CLADONIA GRACILIS VAR. TAURICA, *Auct.*

Summit of Mount Whiteface.

CLADONIA DEGENERANS VAR. CARIOSA, *Fr.*

Dry sandy soil, near West Albany.

CLADONIA FIMBRIATA, *Fr.*
Rocky soil. Saranac Lake.

CLADONIA FIMBRIATA VAR. ADSPERSA, *Tuck.*
Ground. West Albany and Helderberg Mountains.

CLADONIA SQUAMOSA, *Hoffm.*
Rocky, mossy ground. Very common.

CLADONIA SQUAMOSA VAR. DELICATA, *Fr.*
Rotten logs. Sandlake.

CLADONIA FURCATA, *Fl.*
Rocky ground. Common and variable.

CLADONIA FURCATA VAR. RACEMOSA, *Fl.*
Ground and old logs in woods.

CLADONIA FURCATA VAR. SUBULATA, *Fl.*
Rocky ground. Catskill Mountains.

CLADONIA RANGIFERINA, *Hoffm.*
Ground and thin soil covering rocks. Very common.

CLADONIA RANGIFERINA VAR. SYLVATICA, *Fl.*
With the typical form.

CLADONIA RANGIFERINA VAR. ALPESTRIS, *Fl.*
Ground. Bethlehem and Adirondack Mountains.
The "*Reindeer moss*" is one of the most useful of lichens, and has long been famous as the food of the animal whose name it bears.

CLADONIA UNCIALIS VAR. TURGESCENS, *Fr.*
Ground. Top of Mount Whiteface.

CLADONIA MITRULA, *Tuck.*
Ground. Near Greenwood Cemetery, L. I.

CLADONIA CORNUCOPIOIDES, *Fr.*
Rocky soil in exposed places. Adirondack and Catskill Mountains.

CLADONIA CRISTATELLA, *Tuck.*
Ground, rotten logs and stumps. Common in hilly and mountainous districts.

UMBILICARIA PUSTULATA VAR. PAPULOSA, *Tuck.*
Rocks. Not rare on mountains.

UMBILICARIA PROBOSCIDEA, *DC.*
Rocks. Mount Whiteface.

UMBILICARIA MUHLENBERGII, *Tuck.*
Rocks. Sandlake and Catskill Mountains.

UMBILICARIA HIRSUTA, *Ach.*
Rocks. Catskill Mountains.

UMBILICARIA DILLENII, *Tuck.*
Rocks in mountainous districts. Common but sterile.

GRAPHIS SCRIPTA, *Ach.*
Bark of trees. Very common and variable.

OPEGRAPHA VARIA, *Pers.*
Trees. Fort Edward. Howe.

CONIOCYBE PALLIDA, *Fr.*
Bark of oak trees. Fort Edward. Howe. Very rare. To Dr. Howe belongs the discovery of this species in our State.

ENDOCARPON MINIATUM VAR. MUHLENBERGII, *Nyl.*
Fort Edward. Howe.

PERTUSARIA PERTUSA, *Ach.*
Trees. Common.

PERTUSARIA PERTUSA VAR. AREOLATA, *Fr.*
Rocks, especially on mountains.

PERTUSARIA VELATA, *Nyl.*
Trees: sometimes on rocks. Common.

PERTUSARIA VELATA VAR. MULTIPUNCTA, *Nyl.*
Trees in woods.

PERTUSARIA WULFENII, *Dec.*
Trees. Catskill Mountains.

PERTUSARIA GLOBULARIS, *Ach.*
Incrusting twigs and mosses. Catskill Mountains.

CONOTREMA URCEOLATUM, *Tuck.*
Trees in woods. Common.

PYRENULA NITIDA, *Ach.*
Trees in woods. Common.

TRYPETHELIUM VIRENS, *Tuck.*
Bark of trees. Catskill Mountains.

COLLEMA FLACCIDUM, *Ach.*
Rocks. Sandlake.

COLLEMA NIGRESCENS, *Ach.*
Trees. Catskill and Adirondack Mountains.

COLLEMA BYSSOLEUM, *Tuck.*
Rocks. Catskill Mountains.

LEPTOGIUM TREMELLOIDES, *Fr.*
Rocks. Catskill Mountains.

LEPTOGIUM LACERUM. *Fr.*
Mossy rocks. Common.

Dr.

LEPTOGIUM CHLOROMELUM, *Nyl.*
Rocks and trunks of trees. Catskill Mountains.

LEPTOGIUM SATURNINUM, *Nyl.*
Rocks and trunks of trees. Common but sterile.

ALGÆ.

SARGASSUM VULGARE, *Ag.*
Pebbles and small stones near low-water mark. Peconic Bay, at Greenport.

SARGASSUM MONTAGNEI, *Bail.*
With the preceding. Also near Orient.

SARGASSUM BACCIFERUM, *Ag.*
Glencove, L. I. G. B. Brainerd. This is the famous "Gulf weed" of the ocean, and its occurrence in our waters is interesting.

FUCUS NODOSUS, *L.*
Rocks between tide marks. Found on almost all the rocky shores of Long Island and Staten Island; especially abundant near College Point.

FUCUS VESICULOSUS, *L.*

Same range as the preceding species, and quite as plentiful. These two species may be found on almost any part of our coast, growing freely on the rocky shores and cast up by the tide on the sandy ones. The inhabitants of some parts of Long Island use these plants, with Zostera and other rejectamenta of the sea, as fertilizers of the soil.

FUCUS CERANOIDES, *L.*

Bay Ridge, L. Is. Brainerd. The specimens are sterile, and the species must remain, to some extent, in doubt.

FUCUS SCORPIOIDES, *Fl. Dan.*

Left by the tide. Fort Hamilton and Canarsie Bay.

CLADOSTEPHUS SPONGIOSUS, *Ag.*

Floating. Orient Point. Brainerd. October.

ASPEROCOCCUS ECHINATUS, *Grev.*

Stones between tide marks. Flushing. Brainerd. May.

DICTYOSIPHON FŒNICULACEUS, *Grev.*

Canarsie Bay. Brainerd. June.

STILOPHORA RHIZODES, *J. Ag.*

Thrown up by waves and tide. Greenport and Orient Point. September.

DESMARESTIA VIRIDIS, *Lamour.*

Low tide. College Point. June. This species has a peculiar property, causing the rapid decomposition of red algæ that may be placed in a vessel with it.

CHORDARIA FLAGELLIFORMIS, *Ag.*

Thrown up by the tide. Orient Point. September.

CHORDARIA DIVARICATA, *Ag.*

On *Leathesia tuberiformis* and other seaweeds. Coney Island. June.

MESOGLOIA VERMICULARIS, *Ag.?*

Ground between tide marks. Canarsie Bay. Brainerd. July. Though apparently this species, a cross section of the frond reveals the structure of Chordaria.

CHORDA FILUM, *Stack.*

Rocks near low-water mark and extending into deep water. Orient Point. September.

LEATHESIA TUBERIFORMIS, *Gray.*

Thrown up by the tide. Coney Island and Canarsie Bay. June.

ECTOCARPUS VIRIDIS, *Harv.*

Coney Island and Canarsie Bay. June.

ECTOCARPUS LITTORALIS, *Lyngb.*

Fort Hamilton and Canarsie Bay. June.

ECTOCARPUS DURKEEI, *Harv.*

Peconic Bay. Greenport. Mrs. M. A. Bush. September.

LAMINARIA FASCIA, *Ag.*

Rocks, woodwork of docks, etc. Common.

LAMINARIA SACCHARINA, *Lamour.*

Thrown up from deep water in great abundance at Orient Point. September. It varies exceedingly in size, some specimens having been reported to me as being thirty feet in length. A singular form was picked up at College Point in June. The frond, which is about three feet long and three inches broad, divides toward the apex into two equal branches, each abont eight inches long and one and a half inches broad, slightly incurved and truncate at the apex.

PUNCTARIA LATIFOLIA, *Grev.*

Floating in Canarsie Bay. June.

PUNCTARIA TENUISSIMA, *Grev.*

On wild grass, etc. Coney Island. Brainerd. April.

CHONDRIA DASYPHYLLA, *Ag.*

Floating. Greenport. September.

CHONDRIA BAILEYANA, *Mont.*

Stones near low-water mark. Fort Hamilton. September.

CHONDRIA TENUISSIMA, *Ag.*

Floating. College Point. September. Fort Hamilton. F. Lowry.

GELIDIUM CORNEUM, *Lamour.*

Rocks. Fort Hamilton. September.

POLYSIPHONIA FORMOSA, *Suhr.*

Floating. Flushing, Bay Ridge and Red Hook. Brainerd. February, April and May.

POLYSIPHONIA SUBTILISSIMA, *Mont.*

On Zostera, old shells, etc. Greenport. September.

POLYSIPHONIA OLNEYI, *Harv.*

Floating. Bay Ridge. September. Greenport. Mrs. Bush.

POLYSIPHONIA HARVEYI, *Bail.*

Floating. Abundant at Greenport. September.

POLYSIPHONIA FIBRILLOSA, *Grev.*

Greenport. Mrs. Bush. September.

POLYSIPHONIA VARIEGATA, *Ag.*

Thrown up by the tide in many places. Bay Ridge, Astoria, College Point, Greenport, etc. Very common and variable. September.

POLYSIPHONIA NIGRESCENS, *Grev*

Rockaway Inlet and New York Harbor. Brainerd. College Point. June. A variable species.

POLYSIPHONIA FASTIGIATA, *Grev.*

Floating. Bompres Hook. Brainerd. June.

BOTRYCHIA RIVULARIS, *Harv.*

Rocks near high-water mark. College Point and Astoria. September.

CYSTOCLONIUM PURPURASCENS, *Kutz.*

Floating. Flushing. Brainerd. July.

DASYA ELEGANS, *Ag.*

Stones, woodwork, etc. Fort Hamilton, Orient. Peconic bay, Mrs. Bush. New York Bay, Brainerd. September. A most beautiful but variable species.

CHAMPIA PARVULA, *Harv.*

Floating and thrown up by the tide in many places. Coney Island, Canarsie Bay, Peconic Bay, etc. September.

CORALLINA OFFICINALIS, *L.*

Floating. Orient. September.

GRINNELLIA AMERICANA, *Harv.* (*Delesseria americana*, Ag.)

Floating. Bay Ridge, Fort Hamilton, College Point, etc. September

DELESSERIA SINUOSA, *Lamour.*

Thrown up by the tide. Orient. September.

DELESSERIA LEPRIEUREI, *Mont.*

McComb's Dam, Harlem River. Brainerd. September.

GRACILARIA MULTIPARTITA, *J. Ag.*

Thrown up by the tide. Coney Island, Fort Hamilton, College Point, etc. September. An abundant and variable species. Edible.

SOLIERIA CHORDALIS, *J. Ag.*

Thrown up on all the shores of Long Island. Dredged in Canarsie Bay (in water four to six feet deep), where it grows in great abundance. September.

POLYIDES ROTUNDUS, *Grev.*

Thrown up by the tide. Orient. September.

RHODYMENIA PALMATA, *Grev.*

Orient. September.

PHYLLOPHORA BRODIÆI, *J. Ag.*

Orient. September.

ANHFELTIA PLICATA, *Fr.*

Among rejectamenta. Orient. September.

CHONDRUS CRISPUS, *Lyngb.*

Orient. September.

This is the "*Irish moss*" of the shops. It is used by the inhabitants of Orient with no expense or trouble save that of collecting and preparing.

CHYLOCLADIA BAILEYANA, *Harv.*

On Zostera, etc. Greenport. September. Glencove. Brainerd.

SPYRIDIA FILAMENTOSA, *Harv.*

Zostera and shells. Greenport. September. Glencove. Brainerd. August.

RHODOMELA ROCHEI, *Harv.*

Floating. College Point. Brainerd. April.

CERAMIUM RUBRUM, *Ag.*

Attached to Fuci. Common and extremely variable. Bay Ridge, Astoria, Orient, &c.

CERAMIUM DIAPHANUM, *Roth.*

Small stones and seaweeds near low-water mark. Fort Hamilton, Bay Ridge, Canarsie Bay. Common. September.

CERAMIUM FASTIGIATUM, *Harv.*

Floating. Astoria. September.

CERAMIUM ARACHNOIDEUM, *Ag.*

Floating. Greenport. September.

GRIFFITHSIA CORALLINA VAR. TENUIS, *Harv.*

Greenport. Mrs. Bush. Glencove. Brainerd. August.

CALLITHAMNION BAILEYI, *Harv.*

On seaweeds. Orient. September.

CALLITHAMNION BYSSOIDEUM, *Arn.*

Floating. Bay Ridge and Astoria. Attached to wood work. Long dock, Brooklyn. September.

CALLITHAMNION CORYMBOSUM, *Ag.*

Floating. Flushing. Brainerd. August. Peconic Bay. Mrs. Bush.

CALLITHAMNION AMERICANUM, *Harv.*

Floating. College Point. Brainerd. April.

CALLITHAMNION SEIROSPERMUM, *Griff.* (*Seirospora griffithsiana*, Hrv.

Peconic Bay, Mrs. Bush.

BRYOPSIS PLUMOSA, *Lamour.*

Floating. Astoria. September.

PORPHYRA VULGARIS, *Ag.*

Under side of rocks. College Point and Bay Ridge. September. Floating at Fort Hamilton. June. Peconic Bay. Mrs. Bush. Common and variable.

ULVA LATISSIMA, *Lin.*

Rocks. Extremely abundant on all our rocky coasts.

ULVA LINZA, *L.*

Floating. Coney Island.

ENTEROMORPHA INTESTINALIS, *Link.*

Rocks. Fort Hamilton.

ENTEROMORPHA COMPRESSA, *Grev.*

Rocks. Bay Ridge and Fort Hamilton. Floating at Coney Island. Common.

ENTEROMORPHA CLATHRATA, *Grev.*

Muddy or sandy shores. Canarsie Bay and Coney Island.

HORMOTRICHUM YOUNGANUM, *Dillw.*

Rocks. Fort Hamilton. June.

CHÆTOMORPHA TORTUOSA, *Dillw.*

Rocks. Bay Ridge. September.

CHÆTOMORPHA LINUM, *Kutz.*

Dredged in water four to six feet deep. Canarsie Bay. September. Mr. Brainerd has found fronds of this plant in the same locality that were eleven feet in length, a fact truly remarkable, when we consider that the diameter of the frond is less than one line.

CLADOPHORA GLOMERATA, *L.*

Stones and rocks in rapid fresh water streams. A pretty and apparently common species. Buffalo. G. W. Clinton. North Greenbush, Helderberg Mountains, Van Hornesville, etc.

CLADOPHORA FRACTA, *Fl. Dan.*

In quiet water, either fresh, brackish or salt. Albany, Canarsie Bay, Flushing and Greenport.

CLADOPHORA REFRACTA, *Roth.*

Coney Island and Canarsie Bay. A well-marked, beautiful species.

CLADOPHORA ARCTA, *Dillw.*

New York Harbor. Brainerd.

CLADOPHORA GLAUCESCENS, *Griff.*

Coney Island.

RHIZOCLONIUM RIPARIUM, *Roth.*

Wood-work of docks. Greenport.

CHÆTOPHORA PISIFORMIS, *Ag.*

Attached to sticks and grass in fresh water. Greenwood. Brainerd. Guilderland, Albany county; also near Canarsie. Probably common in the State. June.

CHÆTOPHORA ENDIVIÆFOLIA, *Ag.*

On sticks in fresh water. Litchfield, Herkimer county. July.

DRAPARNALDIA GLOMERATA, *Ag.*

Attached to sticks and grass in fresh water streams. Guilderland, Sandlake, Canarsie, Staten Island. June, July.

BATRACHOSPERMUM MONILIFORME, *Roth.*

In still or slow-flowing fresh water. Fort Edward. Howe. Sandlake. July.

LEMANEA FLUVIATILIS, *Ag.*

On rocks in the Cauterskill, Catskill Mountains. Collected by the writer in 1864. This plant has not, to my knowledge, been found elsewhere in this country. It is not a rare species in Europe.

NOSTOC COMMUNE, *Vauch.*

Ground. Appearing in wet weather, especially in spring and autumn. Troy. Howe. Bethlehem. Probably common. An allied species has been used as diet for invalids, and this species is recommended by Harvey for trial for the same purpose.

FUNGI.

AGARICUS MAPPA, *Batsch.*

Woods and fields. Common. Sept., Oct.

AGARICUS PROCERUS, *Scop.*

Woods and fields. Fort Edward. Howe. Aug., Sept. An edible species.

AGARICUS RACHODES, *Vitt.*

Rotting stumps. Fort Edward. Howe. Roadsides. Wynantskill, Rens. county. Aug. A pretty species. Edible.

AGARICUS CRISTATUS, *Bolt.*

Woods. Fort Edward. Howe.

AGARICUS MELLEUS, *Vahl.*

Woods and open fields, on the ground and about the base of stumps. Sept., Oct. Edible.

Writers differ in their estimate of the qualities of this species, some pronouncing it most delicious food, others calling it inferior.

AGARICUS PERSONATUS, *Fr.*

About logs and stumps. Fort Edward. Howe. Autumn. Edible.

AGARICUS NEBULARIS, *Batsch.*

Woods. Fort Edward. Howe. North Greenbush. Edible.

AGARICUS LACCATUS, *Scop.*

Damp thickets and woods. Poestenkill. Howe. Bethlehem. Summer and Autumn.

AGARICUS RADICATUS, *Bull.*

Woods. Summer and autumn. Common. Edible.

This species is remarkable for the long, root-like extension of the stipe, which penetrates into the earth about as far as the proper stipe extends upwards in the air.

AGARICUS VELUTIPES, *Curt.*

Decayed wood. Fort Edward. Howe. Autumn and Spring.

AGARICUS OCHROPURPUREUS, *Berk.*

Woods. Fort Edward. Howe. Bethlehem and North Elba.

AGARICUS GALERICULATUS, *Scop.*

Humid earth. Fort Edward. Howe. Autumn.

AGARICUS EPIPTERYGIUS, *Scop.*

Old wood. Fort Edward. Howe. Autumn.

AGARICUS CAMPANELLA, *Batsch.*

Rotting wood. Fort Edward. Howe.

AGARICUS OSTREATUS, *Jacq.*

Old logs and dead trees. Fort Edward. Howe. Abundant on the Catskill Mountains. Autumn. Edible.

A thick, firm species, quite variable in color but easily recognized after it has been once seen. Said to be excellent food.

AGARICUS SALIGNUS, *Pers.*

Dead trees, old logs and stumps. Common. Summer and autumn. Edible.

AGARICUS PETALOIDES, *Bull.*

Old logs and stumps, especially in damp, shaded places. Fort Edward. Howe. Catskill and Adirondack Mountains. Summer and autumn.

AGARICUS ATROCŒRULEUS, *Fr.*

Bark of old trunks. Fort Edward. Howe. Underside of fence rails. Helderberg Mountains. Summer and autumn.

AGARICUS APPLICATUS, *Batsch.*

Old bark in woods. Fort Edward. Howe.

AGARICUS SEMI-CAPTUS, *B. & C.*

Subterranean sticks. Fort Edward. Howe. A pretty little species, but rare.

AGARICUS CURTISII, *Berk.*

Old boards and saw-dust. Fort Edward. Howe. Autumn.

AGARICUS PRUNULUS, *Scop.*

Woods. Fort Edward. Howe. Bethlehem. Autumn. Edible.

AGARICUS POLYCHROUS, *Berk.*

Decaying wood, etc. Fort Edward. Howe. Bethlehem and Helderberg Mountains. Autumn.

AGARICUS SEMIORBICULARIS, *Bull.*

Fields and woods. Fort Edward. Howe. Summer.

AGARICUS CAMPESTRIS, *L.*

Fields. Fort Edward. Howe. Albany. Summer and autumn. Edible. This species is the one usually cultivated, and, therefore, it is probably used to a greater extent than any other. It should not, however, be inferred from this that it is superior to all others for edible purposes. Several are said to surpass it in flavor, and even the wild ones of this same species, freshly gathered from the fields, are considered by many, superior to the cultivated ones. The young plants are called "*Button mushrooms.*"

The species is quite variable, and, in some of its forms, approaches the following one quite closely. It does not appear to be abundant with us, though more plentiful some seasons than it is others.

AGARICUS ARVENSIS, *Schaff.*

Fields. Fort Edward. Howe. Summer and autumn. Edible.

AGARICUS CRETACEUS, *Fr.*

Fields. Fort Edward. Howe. September. Edible.

AGARICUS SUBLATERITIUS, *Schaff.*

Woods. Fort Edward. Howe. Summer and autumn.

AGARICUS EPIXANTHUS, *Paul.*

Woods. Fort Edward. Howe. Helderberg Mountains. Summer and autumn.

AGARICUS ORCELLA, *Bull.*

Woods and base of stumps in open fields. Fort Edward. Howe. September. Edible.

AGARICUS SUBINVOLUTUS, *Batsch.*

Woods. Poestenkill. Howe. Summer.

AGARICUS CLYPEATUS, *L.*

Woods. Fort Edward. Howe. Summer and autumn.

AGARICUS SPHAGNORUM, *Pers.*

Among Sphagnum in marshes. Sandlake.

COPRINUS COMATUS, *Fr.*

Rich ground, roadsides and barn yards. Bethlehem. September. Edible.

COPRINUS ATRAMENTARIUS, *Bull.*

Manured grounds. Sandlake. Summer. Edible.

This and other allied species, by the deliquescence of the lamellæ, furnish a fluid which may be used as ink.

COPRINUS DOMESTICUS, *Pers.*

Streets and yards of Albany. Spring and summer.

COPRINUS PLICATILIS, *Curt.*

Manure. Fort Edward. Howe. Sandlake. Summer.

PAXILLUS ATRO-TOMENTOSUS, *Fr.*

Rotten logs in woods. Moreau, Saratoga county. Howe. July, October.

HYGROPHORUS CINNABARINUS, *Fr.*

Woods. Poestenkill. Howe. Sandlake. July, September.

HYGROPHORUS CONICUS, *Fr.*

Swampy or shaded places. Poestenkill. Howe. Bethlehem and North Elba. Summer. A pretty species, but it turns black in drying.

HYGROPHORUS CERACEUS, *Fr.*

Humid ground. Poestenkill. Howe. August.

LACTARIUS TORMINOSUS, *Fr.*

Woods. Poestenkill. Howe. July, September.

LACTARIUS PIPERATUS, *Fr.*

Woods. Poestenkill. Howe. North Elba. July, September. Edible.

LACTARIUS INDIGO, *Fr.*

Woods. Poestenkill. Howe. Bethlehem. August, October.

LACTARIUS ANGUSTISSIMUS, *Lasch.*

Woods. Poestenkill. Howe. Sandlake. July, September. Edible.

LACTARIUS VOLEMUS.

Woods and open places. Sandlake. August. Edible.

LACTARIUS SUBTOMENTOSUS, *B. & R.*

Wet swampy woods. Poestenkill. Howe. Summer.

LACTARIUS FULIGINOSUS, *Fr.* Woods. Poestenkill. Howe. Summer.

RUSSULA EMETICA, *Fr.*

Woods. Fort Edward. Howe. Bethlehem and North Elba. Summer. A beautiful but deleterious fungus.

RUSSULA ALUTACEA, *Fr.*

Woods. Poestenkill. Howe. Summer. Edible.

CANTHARELLUS TUBÆFORMIS, *Bull.*

Ground in woods. Fort Edward. Howe. Helderberg Mountains. September.

CANTHARELLUS CRISPUS, *Fr.*

Old logs and sticks. Fort Edward. Howe. Catskill Mountains. Summer and autumn.

MARASMIUS OREADES, *Fr.*

Hedges, orchards, etc. Fort Edward. Howe. August–October. Edible.

MARASMIUS PLANCUS, *Fr.*

Dead leaves and sticks in woods. Common. Summer.

MARASMIUS ROTULA, *Fr.*

Sticks and leaves in woods. Common. Summer.

LENTINUS LECONTEI, *Fr.*

Old logs and stumps, mostly in open places. Common.

PANUS STYPTICUS, *Fr.*

Dead wood. Common.

PANUS DORSALIS, *Fr.*

Old logs. Catskill Mountains.

SCHIZOPHYLLUM COMMUNE, *Fr.*

Dead wood. Very common.

LENZITES BETULINA, *Fr.*

Old stumps and logs. Common.

LENZITES SEPIARIA, *Fr.*

Logs and wooden fences. Fort Edward. Howe. Sandlake and Catskill Mountains.

LENZITES CRATÆGI, *Berk.*

Dead trunks. Fort Edward. Howe.

LENZITES BICOLOR, *Fr.*

Old stumps. Fort Edward. Howe.

BOLETUS ELEGANS, *Fr.*

Woods. Near Port Kent and Bethlehem. August, September. Edible.

BOLETUS GRANULATUS, *L.*

Ground both open and shaded. Fort Edward. Howe. August. Edible.

BOLETUS BOVINUS, *L.*

In or near pine woods. Center station, between Albany and Schenectady; also Sandlake. Summer. A large species. Edible.

BOLETUS SCABER, *Bull.*

Ground in open woods. Sandlake and North Elba. Summer. Edible.

BOLETUS FELLEUS, *Bull.*

Ground in both open and shaded places. Fort Edward. Howe. August.

POLYPORUS OVINUS, *Schæff.*

Ground in pine woods. Bethlehem. September. Edible.

POLYPORUS BRUMALIS, *Fr.*

Dead wood. Fort Edward. Howe.

POLYPORUS TOMENTOSUS, *Fr.*

Low ground in woods, North Elba, where it is quite abundant, but I have not seen it elsewhere.

POLYPORUS PERENNIS, *Fr.*

Shaded ground and banks by roadsides in hilly districts. Common.

POLYPORUS BOUCHEANUS, *Fr.*

Dead sticks and branches lying on or near the ground. Common.

POLYPORUS LURIDUS, *B. & C.*

Sticks and old logs. Fort Edward. Howe. Catskill Mountains.

POLYPORUS ELEGANS, *Fr.*

Dead wood and logs in woods. Fort Edward. Howe. North Elba.

POLYPORUS LUCIDUS, *Fr.*

Old logs, stumps and roots. Common.

POLYPORUS GIGANTEUS, *Fr.*

Base of hemlocks. Fort Edward. Howe. September. Edible.

POLYPORUS SULFUREUS, *Fr.*

Old logs in woods. Fort Edward. Howe. North Elba. Edible. Sometimes attains a very large size, and is also conspicuous by reason of its color, the upper surface being bright orange, the lower, clear sulphur yellow.

POLYPORUS LACTEUS, *Fr.*

Old stumps. Fort Edward. Howe. Catskill Mountains.

POLYPORUS GILVUS, *Fr.*

Trunks of trees. Sandlake.

POLYPORUS ADUSTUS, *Fr.*

Old stumps and branches. Fort Edward. Howe. North Elba.

POLYPORUS LABYRINTHICUS, *Fr.*

Dead pine trunks. Troy. Howe.

POLYPORUS CERIFLUUS, *B. & C.*

Base of trees and old logs in woods. Adirondack Mountains.

POLYPORUS RESINOSUS, *Fr.*

Stumps and trunks of trees. Troy. Howe. Helderberg Mountains.

POLYPORUS APPLANATUS, *Fr.*

Old logs and trees, mostly in woods. Common.

POLYPORUS FOMENTARIUS, *Fr.*

Stumps, trunks and old logs. Common.

POLYPORUS IGNIARIUS, *Fr.*

Trunks of trees. Fort Edward. Howe. North Elba.

POLYPORUS SCUTELLATUS, *Schw.*

Dead bark. Fort Edward. Howe. Dead alders. North Elba.

POLYPORUS SUBFUSCUS, *Fr.*

Trunks and logs. Fort Edward. Howe.

POLYPORUS CAROLINENSIS, *B. & C.*

Stumps in woods. Fort Edward. Howe.

POLYPORUS CARNEUS, *Nees.*

Old logs in woods and open places. Common. Dr. Howe finds a resupinate form.

POLYPORUS CINNABARINUS, *Fr.*

Old logs, etc. Common. A highly colored and somewhat variable species.

POLYPORUS RADIATUS, *Fr.*

Trunks and branches of trees. Fort Edward. Howe.

POLYPORUS BIFORMIS, *Kl.*

Old logs. Catskill Mountains.

POLYPORUS HIRSUTUS, *Fr.*

Trees, stumps, etc. Very common.

POLYPORUS HIRSUTULUS, *Schw.*

Dead branches and sticks. Catskill Mountains.

POLYPORUS LACERATUS, *Berk.*

Old logs and trees. Very common.

POLYPORUS VERSICOLOR, *Fr.*

Old logs, sticks and posts. Everywhere.

POLYPORUS ABIETINUS, *Fr.*

Bark of pines and hemlocks. Moreau. Howe. Catskill Mountains.

POLYPORUS SULLIVANTII, *Mont.*

Branches of trees and ends of cut wood. Moreau. Howe.

POLYPORUS VIRGINEUS, *Schw.*

Branches of trees. Moreau. Howe.

POLYPORUS OCCIDENTALIS, *Kl.* Old logs, Sandlake.

POLYPORUS MEDULLA-PANIS, *Fr.*

Old stumps, logs and fences. Fort Edward. Howe. Van Hornesville.

POLYPORUS VAPORARIUS, *Fr.*

Dead trees. Moreau. Howe.

DÆDALEA CINEREA, *Fr.*

Old logs. Fort Edward. Howe. Catskill Mountains..

DÆDALEA CONFRAGOSA, *Bolt.*

Old logs and stumps. Fort Edward. Howe. North Elba.

GLŒOPORUS NIGROPURPURASCENS, *Schw.*

Old logs. Fort Edward. Howe. Catskill Mountains.

MERULIUS TREMELLOSUS, *Schrad.*

Old logs and stumps. Fort Edward. Howe. Catskill Mountains.

FISTULINA HEPATICA, *Fr.*

Base of chestnut and oak trees. Fort Edward. Howe. Sandlake. Edible. This fungus is pronounced by some writers to be an excellent substitute for beef-steak, and the juice to be equal to beef gravy. It is stated by M. C. Cooke in his "British Fungi" that specimens sometimes attain a weight of thirty pounds. It is at once known by its liver-red color, red juice and yellow under surface. Unfortunately for those who would like to make use of it for food, it is rare with us.

HYDNUM REPANDUM, *L.*

Woods. Fort Edward. Howe. Sandlake. Edible.

HYDNUM SUAVEOLENS, *Scop.*

Ground in woods and along shaded rivulets. Fort Edward. Howe. Sandlake.

HYDNUM GRAVEOLENS, *Delast.*

Woods. Fort Edward. Howe.

HYDNUM ADUSTUM, *Schw.*

Base of trees and stumps. Fort Edward. Howe.

HYDNUM CORALLOIDES, *Scop.*

Old logs in woods. Fort Edward. Howe. Adirondack Mountains. Edible. A very pretty, delicate white fungus.

HYDNUM ERINACEUS, *Bull.*

Dead trunk of Platanus. Fort Edward. Howe.

HYDNUM GELATINOSUM, *Scop.*

Rotten wood in woods. Catskill Mountains.

HYDNUM CIRRHATUM, *Pers.*

Trunks of trees in woods. Adirondack Mountains. Sometimes grows very large—a foot or more in diameter.

HYDNUM OCHRACEUM, *Pers.*

Sticks and stumps. Fort Edward. Howe.

HYDNUM HIMANTIA, *Schw.*

Half-buried, dead branches. Fort Edward. Howe.

HYDNUM MUCIDUM, *Pers.*

Trees and dejected branches. Fort Edward. Howe.

HYDNUM LÆTICOLOR, *B. & C.*

Dead branches among leaves. Fort Edward. Howe.

IRPEX TULIPIFERÆ, *Schw.*

Dead branches of trees. Fort Edward. Howe. Catskill Mountains.

IRPEX DEFORMIS, *Fr.*

Old stumps and trees. Helderberg Mountains.

IRPEX CINNAMOMEUS, *Fr.*

Dead trees and branches lying on the ground. Common.

CLATERELLUS CORNUCOPIOIDES, *Pers.*

Damp, shaded places in woods and along rivulets. Fort Edward. Howe. Helderberg and Adirondack Mountains.

THELEPHORA PALLIDA, *Schw.*

Fields and woods. Fort Edward. Howe. Port Kent

THELEPHORA PALMATA, *Fr.*

Sandy bank in woods. Fort Edward. Howe.

THELEPHORA TERRESTRIS, *Ehrh.*

Woods and thickets. Fort Edward. Howe.

STEREUM FASCIATUM, *Fr.*

Dead wood. North Greenbush.

STEREUM STRIATUM, *Fr.*

Trees and branches. Fort Edward. Howe.

STEREUM COMPLICATUM, *Fr.*

Trees, stumps and branches. Common.

STEREUM PURPUREUM, *Pers.*

Trunks and branches. Common.

STEREUM SPADICEUM, *Fr.*

Old stumps and trees. Common.

STEREUM HIRSUTUM, *Fr.*

Trees and branches. Fort Edward. Howe.

STEREUM OCHRACEO-FLAVUM, *Schw.*

Dead trees. Catskill Mountains.

STEREUM BICOLOR, *Fr.*

Old logs. Catskill Mountains.

STEREUM RUBIGINOSUM, *Schrad.*

Trees and branches. Fort Edward. Howe.

STEREUM TABACINUM, *Fr.*

Dead trees and old logs. Catskill Mountains.

STEREUM IMBRICATULUM, *Schw.*
Trees and branches. Fort Edward. Howe.

STEREUM FRUSTULOSUM, *Fr.*
Trees and branches. Fort Edward. Howe.

STEREUM ACERINUM, *Fr.*
Trees and branches. Fort Edward. Howe.

CORTICIUM OAKESII, *B. & C.*
Bark of hornbeam, oak and ash trees. Fort Edward. Howe. Catskill Mountains.

CORTICIUM CINEREUM, *Fr.*
Bark of trees and branches. Fort Edward. Howe.

CYPHELLA CAPULA, *Fr.*
Stems of herbs. Fort Edward. Howe.

CYPHELLA MUSCICOLA, *Fr.*
Among mosses about the base of trees. Fort Edward. Howe, the first to detect it in this country.

CLAVARIA BOTRYTIS, *Pers.*
Woods. Poestenkill. Howe. Sandlake. Edible.

CLAVARIA AUREA, *Schaff.*
Woods. Fort Edward. Howe. Edible.

CLAVARIA JUNCEA, *Fr.*
Dead leaves. Fort Edward. Howe, the first to find it in this country.

CLAVARIA STRICTA, *Pers.*
Ground and old logs in woods. Fort Edward. Howe. Adirondack Mountains.

CLAVARIA INÆQUALIS, *Fr.*
Woods. Poestenkill. Howe. Helderberg Mountains.

SPATHULARIA FLAVIDA, *Pers.*
Woods in hilly and mountainous districts. Common.

PISTILLARIA MUSCICOLA, *Fr.*
Mosses, most often on *Climacium americanum* and *Hypnum delicatulum*.

TREMELLA AURANTIA, *Schw.*
Old stumps. Sharon Springs.

TREMELLA MESENTERICA, *Retz.* Bark. Fort Edward. Howe. Edible.

TREMELLA SARCOIDES, *With.*
Trunks of trees. Fort Edward. Howe.

EXIDIA AURICULA-JUDÆ, *Fr.*
Old logs in low woods. North Elba. A singular, soft, spongy species, sometimes used as a remedy for sore throat.

EXIDIA GLANDULOSA, *Fr.*
Old logs and sticks. Poestenkill. Howe. Guilderland.

EXIDIA TRUNCATA, *Fr.*
Trees and branches. Poestenkill. Howe.

EXIDIA CINNABARINA, *B. & C.*
Dejected branches. Fort Edward. Howe.

DACRYMYCES STILLATUS, *Fr.*
Old pine wood and rails. Fort Edward. Howe.

DACRYMYCES TORTUS, *Fr.*
Pine wood. Fort Edward. Howe.

LYCOPERDON GEMMATUM, *Batsch.*
Ground and old stumps in woods and fields. Common.

LYCOPERDON PYRIFORME, *Schaff.*
Ground, old stumps and logs. Common. I have partaken of this species without any unpleasant results, but cannot recommend it as especially delicious, and forbear to class it among the edible species.

LYCOPERDON CALVESCENS, *B. & C.*
Ground in open woods. Bethlehem.

LYCOPERDON WRIGHTII, *B. & C.*
Helderberg Mountains.

BOVISTA PLUMBEA, *Pers.*
Fields. West Albany. Edible.

BOVISTA CYATHIFORMIS, *Bosc.*
Fields. Fort Edward. Howe.

GEASTER HYGROMETRICUS, *Pers.*
Sandy ground. Fort Edward. Howe. Center Station.

SCLERODERMA VULGARE, *Fr.*
Ground and old logs. Common.

LYCOGALA EPIDENDRUM, *L.*
Rotten wood. Common.

ÆTHALIUM SEPTICUM, *Fr.*
Old logs and stumps. Common.

DIDERMA GLOBOSUM, *Pers.*
On moss. Sandlake.

DIDERMA CITRINUM, *Fr.* Moss. Catskill Mountains.

DIDYMIUM XANTHOPUS, *Fr.* On Sphagnum. Sandlake.

DIDYMIUM FULVIPES, *Fr.*
On *Hypnum triquetrum*. Fort Edward. Howe, who first detected it in this country.

PHYSARUM NUTANS, *Pers.*
Old logs and bark of hornbeam. Fort Edward. Howe.

STEMONITIS FERRUGINEA, *Ehrh.*
Dead and rotten wood. Common.

DICTYDIUM MICROCARPUM, *Schrad.*
Dead wood. Fort Edward. Howe. Port Kent.

CRIBRARIA PURPUREA, *Schrad.*
Rotten wood. Catskill Mountains. Rare.

CRIBRARIA INTRICATA, *Schrad.*
Rotten wood. Jordanville.

ARCYRIA CINEREA, *Fl. Dan.*
Rotton wood in woods. Sandlake.

TRICHIA RUBIFORMIS, *Pers.*
Rotten wood. North Elba.

TRICHIA CLAVATA, *Pers.*
Rotten wood. Fort Edward. Howe.

TRICHIA TURBINATA, *With.*
Rotten wood. Fort Edward. Howe.

CYATHUS CAMPANULATUS, *Fr.*
Dung in fields. Bethlehem.

CYATHUS CRUCIBULUM, *Pers.*
Sticks and stems of dead herbs. Fort Edward. Howe.

PTYCHOGASTER ALBUS. *Corda.*
In rotten logs. Fort Edward. Howe.

MICROTHYRIUM MICROSCOPICUM, *Desm.*
Dead stems of *Chelone glabra.* Poestenkill. Howe.

SPHÆRONEMA CONSORS, *B. & C.*
Stems of living *Juncus.* Fort Edward. Howe.

DIPLODIA VITICOLA, *Desm.*
Grape vines. Fort Edward. Howe. Albany.

SPHÆROPSIS INSIGNIS, *B. & C.*
Dead acorns. Fort Edward. Howe.

VERMICULARIA LILIACEARUM, *Schw.*
Dead stems of lilies. Poestenkill. Howe.

SEPTORIA HERBARIUM, *B. & C.*
Dead stems of *Leucanthemum vulgare.* Poestenkill. Howe.

STILBOSPORA OVATA, *Pers.*
Bark. Poestenkill. Howe.

STILBOSPORA PYRIFORME, *Hoffm.*
Bark. Poestenkill. Howe.

CYTISPORA RUBESCENS, *Fr.*
Dead bark of mountain ash. Poestenkill. Howe.

CYTISPORA LEUCOSPERMA, *Fr.*
Dead bark. Fort Edward. Howe.

NEMASPORA CROCEA, *Pers.*
Wood and branches of trees. Fort Edward. Howe. Little Falls.

MYXOSPORIUM NITIDUM, *B. & C.*
On *Cornus alternifolia.* Fort Edward. Howe. North Greenbush and Catskill Mountains.

TORULA HERBARUM, *Pers.*
Dead herbs. Poestenkill. Howe.

SEPTONEMA SPILOMEUM, *Berk.*
Old rails and boards. Poestenkill. Howe.

AREGMA SPECIOSUM, *Fr.*
Cultivated rose bushes. Fort Edward. Howe.

PUCCINIA ACULEATA, *Schw.*
Living leaves of *Podophyllum peltatum*. Fort Edward. Howe.

PUCCINIA SOLIDA, *Schw.*
Living leaves of *Anemone pennsylvanica*. Fort Edward. Howe.

PUCCINIA GRAMINIS, *DC.*
Stems and leaves of grasses. Fort Edward. Howe.

PUCCINIA WALDSTEINIÆ, *Curt.*
Living leaves of *Waldsteinia fragarioides*. Fort Edward. Howe, by whom it was first discovered. Closely allied to *Puccinia solida*, from which it differs in color—giving a purple hue to the leaf tissues.

PUCCINIA JUNCI, *Schw.*
Living stems of Juncus. Fort Edward. Howe.

PUCCINIA INVESTITA, *Schw.*
Living leaves of Gnaphalium. Fort Edward. Howe.

UREDO RUBIGO, *DC.*
Living leaves of rye. Fort Edward. Howe. This and other species of *Uredo* are commonly called "*Rust.*"

UREDO CARICINA, *DC.*
Leaves of sedges. Fort Edward. Howe.

UREDO EPITEA, *Kunze.*
Leaves of willows. Fort Edward. Howe.

UREDO POLYGONORUM, *DC.*
Leaves of Polygonum. Poestenkill. Howe.

UREDO SOLIDAGINIS, *Schw.*
Leaves of Solidago and Aster. Fort Edward. Howe. Coney Island.

UREDO POTENTILLÆ, *DC.*

Leaves of *Potentilla canadensis.* Poestenkill. Howe.

UREDO RUBORUM, *DC.*

Leaves of Rubus. Fort Edward. Howe.

UREDO LUMINATA, *Schw.*

Leaves of Rubus. Common.

UREDO EFFUSA, *Strauss.*

Leaves, petioles and young branches of rose bushes. Fort Edward. Howe. Sandlake.

UREDO LEGUMINOSARUM, *Link.*

Leaves of *Amphicarpæa monoica.* North Greenbush.

UREDO PYROLÆ, *Strauss.*

Under side of leaves of Pyrola. Common.

UREDO SALICETI, *Schlect.*

Leaves of willows. Fort Edward. Howe.

UREDO VIOLARUM, *DC.*

Leaves of violets. Fort Edward. Howe.

UROMYCES LESPEDEZÆ-VIOLACEÆ, *Schw.*

Leaves of *Lespedeza violacea.* Poestenkill. Howe. Bethlehem.

UROMYCES LESPEDEZÆ-PROCUMBENTIS, *Schw.*

Leaves of *Lespedeza procumbens.* Kingsbury. Howe.

UROMYCES HYPERICI, *Schw.*

Leaves of Hypericum. Fort Edward. Howe.

UROMYCES APICULOSA, *Lev.*

Leaves of Euphorbia. Kingsbury. Howe.

USTILAGO SEGETUM, *Pers.*

Heads of oats. Fort Edward. Howe. The species of Ustilago are popularly known by the name of "*Smut.*" Those that attack the cultivated grains are detrimental to the interests of the farmer, often materially diminishing the quantity and quality of his crops.

USTILAGO MAYDIS, *Corda.* (*Ustilago zeæ, Schw.*)

Flowers, fruit, etc., of Indian corn. Albany and Sandlake. The *Corn Smut* is sometimes a serious pest. A field of corn came under my observation the past season in which almost every hill

had been attacked, and at least one out of every four ears. This field of corn, just before flowering time, appeared as thrifty and promising as any in the county.

USTILAGO JUNCI, *Schw.*

Heads of Juncus. Poestenkill. Howe.

USTILAGO URCEOLORUM, *DC.*

Seeds of *Carex pennsylvanica.* Center Station.

USTILAGO UTRICULOSA, *Nees.*

Seeds of Polygonum. Albany.

ROESTELIA LACERATA, *Sow.*

Leaves and twigs of the thorn,—*Cratægus crus-galli.* North Greenbush.

ÆCIDIUM GROSSULARIÆ, *DC.*

Leaves of gooseberry, *Ribes cynosbati.* Sandlake.

ÆCIDIUM COMPOSITARUM, *Mart.*

Leaves of Compositaceæ. Moreau. Howe.

ÆCIDIUM GNAPHALIATUM, *Schw.*

Leaves of Gnaphalium. Moreau. Howe.

ÆCIDIUM HOUSTONIATUM, *Schw.*

Leaves of Houstonia. Bethlehem.

ÆCIDIUM SAMBUCI, *Schw.*

Petioles of elder,—*Sambucus canadensis.* West Albany and Sandlake.

ÆCIDIUM HYDNOIDEUM, *B. & C.*

Leaves of leatherwood,—*Dirca palustris.* Fort Edward. Howe. North Greenbush.

CYSTOPUS CANDIDUS, *Lev.*

Leaves of Amarantus. Poestenkill. Howe.

EPICOCCUM MICROPUS, *Corda.*

Dead pumpkin vines. Poestenkill. Howe.

TUBERCULARIA GRANULATA, *Pers.*

Dead bark. Troy. Howe.

TUBERCULARIA VULGARIS, *Tode.*

Dead sticks and branches. Common.

TUBERCULARIA CONFLUENS, *Pers.*

Dead bark of currant. Troy. Howe.

SPOROCYBE CALICIOIDES, *Fr.*

Dead bark. Troy. Howe.

HELMINTHOSPORIUM MACROCARPON, *Grev.*

Bark of chestnut. Fort Edward. Howe.

HELMINTHOSPORIUM RECTUM, *B. & C.*

Dead wood. Fort Edward. Howe.

PODOSPORIUM RIGIDUM, *Schw.*

Leaves of Ampelopsis. Fort Edward. Howe.

POLYTHRINCIUM TRIFOLII, *Kunze.*

Living leaves of clover. Common.

CLADOSPORIUM HERBARUM, *Link.*

Dead leaves and stems of herbs. Fort Edward. Howe.

PENICILLIUM CRUSTACEUM, *Fr.*

Rotten apples. Poestenkill. Howe.

MORCHELLA ESCULENTA, *Pers.*

Ground under pines. Fort Edward. Howe. North Greenbush and Bethlehem. Edible. The "*Morel.*"

HELVELLA ESCULENTA, *L.*

Ground in woods. Fort Edward. Howe. Edible.

GEOGLOSSUM HIRSUTUM, *Pers.*

Low wet ground. Poestenkill. Howe. Jordanville.

GEOGLOSSUM DIFFORME, *Fr.*

Wet ground. Poestenkill. Howe.

PEZIZA MACROPUS, *Pers.*

Ground in woods. Bethlehem and Adirondack Mountains.

PEZIZA SCUTELLATA, *L.*

Old wood. Fort Edward. Howe. North Elba.

PEZIZA CALYCINA, *Schum.*

Gum spots on spruce trees. Catskill Mountains. Bark of pines. Fort Edward. Howe.

PEZIZA VITICOLA, *Pers.*
Dead grape vines in woods. Fort Edward. Howe. Rare.

PEZIZA LENTICULARIS, *Bull.*
Bark of white oak. Fort Edward. Howe. Rare.

PEZIZA TRANSLUCIDA, *B. & C.*
Fort Edward. Howe.

PEZIZA CYATHOIDEA, *Bull.*
Wood and stems of herbs. Fort Edward. Howe. Sandlake.

PEZIZA AGASSIZII, *B. & C.*
Trunks of trees—balsam firs. Mt. McIntyre.

PEZIZA CITRINA, *Batsch.*
Rotten wood. Fort Edward. Howe. Catskill Mountains.

PEZIZA HERBARUM, *Pers.*
Stems of herbs. Fort Edward. Howe.

PEZIZA COMPRESSA, *A. & S.*
Dry wood. Fort Edward. Howe.

PEZIZA FLEXELLA, *Fr.*
Pine wood. Fort Edward. Howe.

PEZIZA TURBINATA, *Curt.*
Chestnut bark. Fort Edward. Howe, by whom it was first found in this country.

SOLENIA CANDIDA, *Pers.*
Rotten hemlock branches. Fort Edward. Howe.

ASCOBOLUS CONGLOMERATUS, *Schw.*
Rotten wood. Troy. Howe.

BULGARIA INQUINANS, *Fr.*
Black oak logs. Fort Edward. Howe.

BULGARIA SARCOIDES, *Fr.*
Rotten wood. Catskill Mountains.

SPHINCTRINA TURBINATA, *Fr.*
On Pertusaria and dry fungus. Fort Edward. Howe.

PATELLARIA DISCOLOR, *Mont.*

Wood and stems of herbs. Troy and Fort Edward. Howe.

PATELLARIA RHABARBARINA, *Berk.*

Bark of alder. Troy. Howe.

URNULA CRATERIUM, *Fr.*

Rotten logs and sticks in woods. Fort Edward. Howe.

DERMATEA FASCICULARIS, *Fr.*

Oak branches. Poestenkill. Howe.

CENANGIUM SERIATIM, *Fr.*

Dead bark of white birch. Fort Edward. Howe, the first to find it in this country.

CENANGIUM PINASTRI, *Fr.*

Bark of hemlock. Fort Edward. Howe.

CENANGIUM POPULINUM, *Schw.*

Bark of Populus. Fort Edward. Howe.

CENANGIUM RIBIS, *Fr.*

Dead branches of Ribes. Poestenkill. Howe.

DICHÆNA FAGINEA, *Fr.*

Bark of beech trees. Common.

RHYTISMA SOLIDAGINIS, *Schw.*

Leaves of Solidago. Common.

RHYTISMA ACERINUM, *Fr.*

Leaves of red maple. Common.

RHYTISMA DECOLORANS, *Fr.*

Leaves of *Andromeda ligustrina.* Sandlake.

RHYTISMA VACCINII, *Fr.*

Leaves of Vaccinium. Fort Edward. Howe.

RHYTISMA PRINI, *Fr.*

Leaves of Prinos. Sandlake.

RHYTISMA PUNCTATUM, *Fr.*

Leaves of maple. Fort Edward. Howe. Sandlake.

RHYTISMA SALICINUM, *Fr.*
Leaves of willow. Fort Edward. Howe.

RHYTISMA BLAKEI, *Curt.*
Leaves of Rubus. Fort Edward. Howe.

PHACIDIUM CORONATUM, *Fr.*
Dry leaves of oak and chestnut. Fort Edward. Howe.

PHACIDIUM CRUSTACEUM, *B. & C.*
Dead branches of pines. Fort Edward. Howe.

HYSTERIUM ELONGATUM, *Wahl.*
Dry wood and old branches. Poestenkill and Fort Edward. Howe.

HYSTERIUM HIASCENS, *B. & C.*
Bark of white oak. Fort Edward. Howe.

HYSTERIUM LINEARE, *Fr.*
Old wood and rails. Poestenkill. Howe. Helderberg Mts.

HYSTERIUM PINASTRI, *Schrad.*
Dead pine leaves. Poestenkill. Howe.

XYLARIA POLYMORPHA, *Pers.*
Rotten wood. Common and variable.

XYLARIA HYPOXYLON, *Ehrh.*
Old wood and stumps. Fort Edward. Howe. Helderberg Mts.

HYPOCREA LACTIFLUORUM, *Schw.*
On Lactarius. Fort Edward. Howe. Sandlake.

HYPOCREA CITRINA, *Fr.*
Dead sticks in woods. Fort Edward. Howe.

HYPOCREA RUFA, *Pers.*
Dead wood. Moreau. Howe.

HYPOCREA RICHARDSONII, *B. & M.*
Bark of pines and oaks in woods. Fort Edward. Howe.

HYPOXYLON USTULATUM, *Bull.*
Old trees and stumps. Fort Edward. Howe. Helderberg Mts.

HYPOXYLON NUMMULARIUM, *Bull.*
Bark of maple. Fort Edward. Howe.

HYPOXYLON CLYPEUS, *Schw.*
Oak bark. Fort Edward. Howe.

HYPOXYLON MULTIFORME, *Fr.*
Old wood and bark. Fort Edward. Howe.

HYPOXYLON COHÆRENS, *Pers.*
Old logs and trees. Fort Edward. Howe. Adirondack Mts.

HYPOXYLON FUSCUM, *Pers.*
Dead branches. Fort Edward. Howe.

HYPOXYLON FRAGIFORME, *Pers.*
Beech bark. Fort Edward. Howe.

HYPOXYLON RUBIGINOSUM, *Pers.*
Rotten wood. Fort Edward. Howe.

HYPOXYLON SERPENS, *Pers.*
Dead wood. Fort Edward. Howe.

DIATRYPE STIGMA, *Fr.*
Bark and wood of elm trees. Fort Edward. Howe.

DIATRYPE DISCIFORMIS, *Fr.*
Trunks of trees and dead sticks. North Greenbush and Catskill Mts.

VALSA NIVEA, *Fr.*
Dead Populus. Catskill Mts.

VALSA STILBOSTOMA, *Fr.*
Branches of trees. Fort Edward. Howe.

VALSA AMERICANA, *B. & C.*
Branches of trees. Fort Edward. Howe.

VALSA CONSTELLATA, *B. & C.*
Bark. Fort Edward. Howe.

NECTRIA CINNABARINI, *Fr.*
Bark and dead branches of trees—also parasitic on *Tuberculariæ confluens.* Troy. Howe.

NECTRIA CUCURBITULA, *Fr.*
Dead branches of birch. Fort Edward. Howe.

SPHÆRIA OVINA, *Pers.*
Dry Wood. Poestenkill. Howe.

SPHÆRIA PULVIS-PYRIUS, *Pers.*
Oak wood. Poestenkill. Howe.

SPHÆRIA MYRIOCARPA, *Fr.*
Dry wood. Poestenkill. Howe.

SPHÆRIA PAPILLA, *Schw.*
Bark of Alnus. Fort Edward. Howe.

SPHÆRIA PERTUSA, *Pers.*
Dead wood. Poestenkill. Howe.

SPHÆRIA FISSURARUM, *B. & C.*
Pine wood. Poestenkill and Fort Edward. Howe.

SPHÆRIA SAUBINETI, *Mont.*
Stems of corn and rye. Poestenkill. Howe.

SPHÆRIA PICEA, *Pers.*
Stems of herbs. Poestenkill. Howe.

SPHÆRIA ULMEA, *Schw.*
Leaves of elms. Fort Edward. Howe.

SPHÆRIA LESPEDEZÆ, *Schw.*
Leaves of Lespedeza. Kingsbury. Howe.

SPHÆRIA ROSTRATA, *Fr.*
Wood and bark. Kingsbury. Howe.

SPHÆRIA LIMÆFORMIS, *Schw.*
Bark of oak and chestnut. Fort Edward. Howe.

SPHÆRIA ACULEATA, *Schw.*
Stems of herbs. Fort Edward. Howe.

SPHÆRIA ACUMINATA, *Sow.*
Stems of Chenopodium. Poestenkill. Howe.

SPHÆRIA NIGRELLA, *Fr.*
Stems of Ambrosia. Poestenkill. Howe.

SPHÆRIA VERBASCICOLA, *Schw.*
Stems of Verbascum. Poestenkill. Howe.

SPHÆRIA POTENTILLÆ, *Schw.*
Leaves of *P. canadensis.* Fort Edward. Howe.

SPHÆRIA PUNCTIFORMIS, *Pers.*
Dead leaves. Fort Edward. Howe.

SPHÆRIA FUSCA, *Pers.*
Dead branches among leaves. Fort Edward. Howe.

SPHÆRIA DISCIFORMIS, *Hoffm.*
Dry sticks in open fields. Poestenkill. Howe.

SPHÆRIA CORYLI, *Batsch.*
Leaves of Corylus. Fort Edward. Howe.

SPHÆRIA FIMBRIATA, *Pers.*
Leaves of Carpinus and Ostrya. Fort Edward. Howe.

SPHÆRIA QUERCINA, *Pers.*
Fort Edward. Howe.

SPHÆRIA EPIDERMIDIS VAR. MICROSCOPICA, *Desm.*
Bark of cherry trees. Fort Edward. Howe.

SPHÆRIA DESMAZIERII, *B. & Br.*
Under side of branches lying on the ground. Fort Edward. Howe.

SPHÆRIA SORDARIA, *Fr.*
Bark of Populus. Fort Edward. Howe.

MICROSPHÆRIA PENICILLATA, *Lev.*
Leaves of Viburnum. Fort Edward. Howe.

DOTHIDEA OMANS, *Schw.*
Stems of Asclepias. Moreau. Howe.

DOTHIDEA BETULINA, *Fr.*
Leaves of Betula. Fort Edward. Howe.

ERYSIPHE COMMUNIS, *Schlect.*

Living leaves. Fort Edward. Howe.

ERYSIPHE CEANOTHI, *Schw.*

Leaves of Ceanothus. Fort Edward. Howe.

ASTERINA GAULTHERIÆ, *Curt.*

Under side of leaves of wintergreen—*G. procumbens.* Common.

ERINEUM FAGINEUM, *Pers.*

Beech leaves. Fort Edward. Howe.

ERINEUM LUTEOLUM, *Kunze.*

Maple leaves. Fort Edward. Howe.

ERINEUM ALNIGERUM, *Kunze.*

Alder leaves. Fort Edward. Howe.

ERINEUM AUREUM, *Pers.*

Birch leaves. Fort Edward. Howe.

ERINEUM VITIS, *DC.*

Grape leaves. Poestenkill. Howe.

SCLEROTIUM OROBANCHES.

Dead stems of *Epiphegus virginiana.* Fort Edward. Howe. Rare.

SCLEROTIUM VARIUM.

Dead vegetables. Fort Edward. Howe.

SCLEROTIUM POPULINUM, *Pers.*

Leaves of Populus. Fort Edward. Howe.

EUSTILBUM REHMIANUM, *Rabenh.*

Gum spots on bark of spruce trees. Catskill Mountains.

DEPAZEA BRUNNEA, *B. & C.*

Leaves of maple. Jordanville.

DEPAZEA CRUENTA, *Fr.*

Leaves of Solomon's seal—*Smilacina racemosa.* North Greenbush.

NEW STATIONS OF RARE PLANTS—REMARKABLE VARIETIES AND OBSERVATIONS.

THALICTRUM PURPURASCENS, *L.*

Plentiful on the sandy barrens between Albany and Schenectady.

DENTARIA MAXIMA, *Nutt.*

Angola, Erie county. G. W. Clinton.

VIOLA CUCULLATA VAR. CORDATA, *Gray.*

North Greenbush.

VIOLA CUCULLATA VAR. LONGIPES.

Cedar swamps of South Herkimer county. Gilbert. In accordance with the suggestion of Mr. Gilbert I have ventured to give this variety a name. It is characterized by its very long scapes (8'–12' in length) much surpassing the small, thick leathery leaves, and by its large flowers, nearly always white or variegated.

VIOLA PUBESCENS VAR. SCABRIUSCULA, *T. & G.*

Shaded banks. North Greenbush.

VIOLA TRICOLOR VAR. ARVENSIS, *DC.*

Mr. Gerard finds this plant on a hill near Poughkeepsie, apparently native there.

HYPERICUM CANADENSE VAR. MAJOR, *Gray.*

Shore of Bowman's pond, Sandlake.

MALVA MOSCHATA, *L.*

Meadows. Sandlake. Roadsides, southern towns of Herkimer county; quite plentiful there, and oftener with white than with rose-colored flowers.

POTENTILLA FRUTICOSA, *L.*

Newburgh. Gerard.

LONICERA SEMPERVIRENS, *Ait.*

Bald Mountain, near Lansingburgh. Brainerd.

SEDUM TELEPHIOIDES, *Michx.*

West shore of Seneca Lake. Wright. Not a new station but one previously involved in some doubt.

KRIGIA VIRGINICA, *Willd.*

Bethlehem.

LINARIA VULGARIS VAR. PELORIA.

Ponghkeepsie. Gerard.

LOBELIA SYPHILITICA, *L.*

Poughkeepsie; with white flowers. Gerard.

RHODODENDRON MAXIMUM, *L.*

White's corners, Erie county. D. F. Day.

PHYSOSTEGIA VIRGINIANA, *Benth.*

Shore of Lake Champlain, one mile south of Westport.

ECHIUM VULGARE, *L.*

Becoming too common in the eastern part of the State. Farmers would do well to look upon this showy but rough plant as an unwelcome intruder on their lands.

GENTIANA SAPONARIA VAR. LINEARIS, *Gray.*

Common in the Adirondack region, where it occasionally bears white flowers.

STATICE LIMONIUM, *L.*

Astoria. A white-flowered variety.

WOLFFIA COLUMBIANA, *Karsten.*

Near Catskill. T. F. Allen.

ZANNICHELLIA PALUSTRIS, *L.*

Lake Champlain at Westport.

GOODYERA MENZIESII, *Lindl.*

Woods. North Elba.

CYPRIPEDIUM ARIETINUM, *R. Brown.*

Swamp near Summit Lake, bearing pure white flowers. Gilbert.

JUNCUS ARTICULATUS, *L.*

Wet places, West Albany.

XYRIS FLEXUOSA VAR. PUSILLA, *Gray.*

Cranberry marsh, Sandlake.

CYPERUS GRAYII, *Torr.*

Port Kent, on the farm of Hon. W. C. Watson. Dr. Howe sends from Fort Edward a variety without rays, the spikes being all in a single sessile head.

CAREX GYNOCRATES VAR. SUBSTAMINATA.

Cedar swamps, Jordanville. In this form a single perigynium occurs at the base of the staminate spike. Specimens were found with the spikes wholly staminate, but none were seen wholly pistillate.

CAREX SCIRPOIDEA, *Michx.*

This rarely produces an additional small spike at the base of the principal one.

CAREX SICCATA, *Dew.*

Plentiful on the top of Bald Mountain, Rensselaer county.

CALAMAGROSTIS CANADENSIS, *Beauv.*

Specimens bearing *ergot* were found at the base of Mt. McIntyre, eight miles from any cleared land, from which it is probable that the production of *ergot* is independent of any influence from cultivation.

This grass grows abundantly in the low grounds and on the "*beaver meadows*" of Essex and Franklin counties, and is cut for hay to the extent of many tons.

ONOCLEA SENSIBILIS VAR. OBTUSILOBATA, *Torr.*

A form closely approaching this rare variety was found in Sandlake by Dr. Howe. The pinnæ of one side of the frond are more contracted than those of the other side; all are sinuate pinnatifid, but the pinnules are broadest at the base. The fruit is not well developed.

ASPLENIUM EBENEUM VAR. INCISUM, *Howe.*

Poestenkill. Howe. In this form the pinnæ are about one inch long, and all except the extreme upper and lower ones are deeply incised—pinnatifid; the pinnules are rather strongly 3–5 crenate toothed. I have thought best to give it the name suggested by its discoverer.

ISOETES ECHINOSPORA VAR. BRAUNII, *Engelm.*

Poestenkill. Howe.

SPHAGNUM CYMBIFOLIUM VAR. CONGESTUM, *Bryol Europ.*

On all the high peaks of the Adirondack Mts. Its compact growth and numerous dense branches probably serve in some measure to protect it from the rude assaults of the violent winds to which it is exposed. The same mode of growth and dense ramification is also observed in *S. acutifolium* and other species growing in these elevated exposed situations.

DICRANUM RUFESCENS, *Turn.*

Banks by roadsides. Catskill Mts.

DICRANUM SCHREBERI, *Hedw.*
Banks near Little Falls. Austin.

DICRANUM SPURIUM, *Hedw.*
Woods. Poestenkill.

FISSIDENS EXIGUUS, *Sulliv.*
Danube, Herkimer county. Austin.

BARBULA FALLAX, *Bryol Europ.*
Little Falls. Austin.

ORTHOTRICHUM OBTUSIFOLIUM, *Schrad.*
Stone walls. Herkimer county.

PTYCHOMITRIUM INCURVUM, *Schwægr.*
Peekskill. (M. Leroy legit.) Austin.

HYPNUM NITENS, *Schreb.*
Fort Edward. Howe. A remarkable form with curved branches and secund-falcate leaves.

DUVALIA RUPESTRIS, *Nees.*
Rocks. Little Falls.

GRIMALDIA BARBIFRONS, *Raddi.*
Bethlehem.

LUNULARIA VULGARIS, *Mich.*
Conservatories. Buffalo. Clinton.

REBOULIA HEMISPHÆRICA, *Raddi.*
Ravines near Albany.

In concluding this report grateful acknowledgments are rendered to Profs. A. Braun, W. S. Sullivant, E. Tuckerman and Rev. M. A. Curtis for much aid in the determination, by duplicate specimens, of species belonging to the orders which they have respectively made a specialty. It is also added, by request of Dr. Howe, that the specimens of fungi contributed by him have all passed, by duplicate, under the inspection of Dr. Curtis.

It is desirable that any interesting observations on the flora of our State be promptly communicated, and that good specimens of any new species or marked varieties be forwarded for the Herbarium.

In the preceding list, when no name is annexed to the station or stations, the plant has been found therein by the writer.

Dates given in the list of mosses signify the time of maturing the fruit; in the lists of algæ and fungi, the time of collecting; and, to some extent, therefore, they indicate the time of the occurrence of the species. Much observation is yet necessary to enable us to determine their time of maturity fully and accurately. Most of the lichens, some algæ and many fungi, may be found at all seasons.

Respectfully yours,

C. H. PECK.

ALBANY, *Jan. 9th*, 1869.

1869

(C.)

REPORT OF THE BOTANIST.

1869

S. B. WOOLWORTH, LL.D.,

Secretary of the Regents:

SIR — The number of species of plants of which specimens have been poisoned, mounted, labeled and placed in the State Herbarium, since the date of my last report, is seven hundred and forty-six. A list of them is given in a paper marked (1).

Seeds of one hundred and sixty-four species have been placed in small paper pockets with mica covers, and attached to their respective species sheets. A list of the species is marked (2).

The number of species of which specimens have been collected, is four hundred and thirteen, of which three hundred and twelve are new to the State, and sixty-eight new or unpublished. A tabular statement and classification is given below. A list of the species is marked (3).

SPECIES COLLECTED.

	Number of species.	New to the State.	New to science.
Fungi	345	290	67
Algæ	8	8	1
Lichenes	6	6	..
Musci	2	1	..
Filices	3	1	..
Cryptogamia	364	306	68
Phænogamia	49	6	..
Total	413	312	68

It will be seen that the greatest number of additions, as well as of new species, is of the fungi. This is due to the facts that there are very many species of them, that they have hitherto been less thoroughly studied and carefully collected than the others, and that special attention has been given to them the past season.

In consequence of the great changes in color and shape that most of the fleshy putrescent fungi undergo in drying, it has been thought best to make colored drawings of them while in the fresh state. The number of species and varieties thus illustrated is two hundred and fifteen. These illustrations will be placed on the species sheets with the dried specimens, and will with the spores, which have been saved from nearly all the species, give a very fair exhibition of the scientific characters of the plant. Selections might be made from these illustrations for publication if deemed desirable.

Descriptions have also been written of most of these fungi while in the fresh state. This was thought best, because of the large number of new species, and the difficulty in getting descriptions of such as may have already been described. It is to be hoped that these descriptions will greatly aid those who may desire to study these singular but really useful and interesting plants. Artificial synopses of the species have been introduced to facilitate their study.

Believing that it would be of interest to many to know what plants grow on the bleak and exposed summit of Mt. Marcy, the most elevated land in the State, a list of such as have been seen by myself on that almost alpine spot has been made. It is marked (4). The distribution of these plants in their several classes and orders is thus: Flowering plants, fifty; Club Mosses, three; Mosses, thirty-two; Liverworts, ten; Lichens, twenty-three; Fungi, two species. The whole number is one hundred and twenty species. Among the flowering plants there are three trees, but they are mere shrubs in size, and not numerous. They are the balsam (*Abies balsamea*), the mountain ash (*Pyrus Americana*) and the paper birch (*Betula papyracea*). The first one, in sunken places, attains the height of two or three feet and bears cones. There are eleven shrubs, five sedges and seven grasses; of the latter, two are now first reported as belonging to our flora. The number of marsh plants growing at this high altitude is remarkable. *Cassandra calyculata*, *Kalmia glauca*, *Ledum latifolium*, *Veratrum viride*, *Habenaria dilatata*, *Sphagnum cymbifolium*, and *S. acutifolium* are examples. The necessary conditions for the growth of marsh plants are afforded by the clouds and fogs that so frequently envelop the top of the mountain.

The number of species represented by specimens contributed by botanists, is four hundred and thirty-eight; of these, however, only one hundred and forty-six are from this State. Of

the latter number, twenty-eight have not been before reported, and are not among my own collections of the past season. These will make the number of species added to our flora by myself and others, three hundred and forty. The names of the contributors and lists of the contributions are given in a paper marked (5).

The number of edible species of fungi found is fifteen. The list is marked (6). One of these so far surpasses most of the others in size and general good qualities, that it is earnestly recommended for cultivation. It is *Lycoperdon giganteum*.

The unusual abundance of fruits, not only cultivated, but also wild, the past season, is perhaps worthy of remark. Berries, of various kinds, have been plentiful. The low-bush Vaccinia, commonly known as *Blue berries*, have been gathered, in some localities, not by quarts, but by bushels. Scores of wagon loads, ranging from eight to fifteen bushels each, were taken from the waste lands lying between North Elba and Saranac lake, during my visit to that region. It appears to me evident that, in other localities less favored in this respect by nature, these fruits might be profitably cultivated on light soils that are of but little value for ordinary crops. The experiment, at least, should be tried. It has been tried in wet soils, with the high-bush blue berry (*Vaccinium corymbosum*), with considerable success.

The species new to our flora, with habitat, locality etc., also descriptions of fleshy fungi, and new species, will be found in a paper marked (7).

(1.)

LIST OF SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

Clematis verticillaris *DC.*
Anemone cylindrica *Gray.*
A. Pennsylvanica *L.*
Hepatica triloba *Chaix.*
H. acutiloba *DC.*
Thalictrum anemonoides *Michx*
T. purpurascens *L.*
T. cornuti *L.*
Ranunculus acris *L.*
R. fascicularis *Muhl.*
Trollius laxus *Salisb.*
Coptis trifolia *Salisb.*
Brasenia peltata *Pursh.*
Nymphæa tuberosa *Paine.*
N. minor *DC.*
Sarracenia purpurea *L.*
Sanguinaria Canadensis *L.*
Dicentra Canadensis *DC.*
Nasturtium officinale *R. Br.*
N. Armoracia *Fries.*
Dentaria laciniata *Muhl.*
Arabis hirsuta *Scop.*
A. Canadensis *L.*
Barbarea vulgaris *R. Br.*
Lepidium campestre *L.*
Viola rotundifolia *Michx.*
V. blanda *Willd.*
V. cucullata *Ait.*
V. c. *var.* cordata *Gray.*
V. c. *var.* longipes *Peck.*
V. pedata *L.*
V. Canadensis *L.*

Viola pubescens *Ait.*
V. p. *var.* eriocarpa *Nutt.*
V. p. *var.* scabriuscula *T. & G.*
V. tricolor *var.* arvensis *DC.*
Drosera longifolia *L.*
Hypericum Canadense *L.*
H. C. *var.* major *Gr.*
Elatine Clintoniana *Peck.*
Vaccaria vulgaris *Host.*
Silene stellata *Ait.*
Cerastium oblongifolium *Torr.*
Sagina procumbens *L.*
Malva moschata *L.*
Hibiscus Moscheutos *L.*
Flœrkea proserpinacoides *Wd.*
Rhus aromatica *Ait.*
Vitis æstivalis *Michx.*
V. cordifolia *Michx*
Rhamnus alnifolius *L'Her.*
Acer spicatum *Lam.*
Polygala polygama *Walt.*
P. paucifolia *Willd.*
Lupinus perennis *L.*
Trifolium pratense *L.*
Robinia Pseudacacia *L.*
Lespedeza Stuvei *Nutt.*
Vicia Cracca *L.*
V. tetrasperma *L.*
Lathyrus palustris *L.*
Apios tuberosa *Mœnch.*
Cassia Chamæcrista *L.*
C. nictitans *L.*
Prunus maritima *Wang.*
P. pumila *L.*
Spiræa tomentosa *L.*
Potentilla paradoxa *Nutt.*
P. fruticosa *L.*
Fragaria vesca *L.*
Rubus strigosus *Michx.*
R. neglectus *Peck.*
R. occidentalis *L.*
R. hispidus *L.*
Rosa setigera *Michx.*
R. lucida *Ehrh.*
R. rubiginosa *L.*
Cratægus tomentosa *L.*
C. Crus-galli *L.*
Amelanchier Canadensis *T. & G.*
Ribes Cynosbati *L.*
R. hirtellum *Michx.*
Ribes lacustre *Poir.*
Saxifraga Pennsylvanica *L.*
Mitella nuda *L.*
Sedum telephioides *Michx.*
Epilobium hirsutum *L.*
E. palustre *var.* lineare *Gr.*
Ænothera pumila *L.*
Lythrum Salicaria *L.*
Sanicula Canadensis *L.*
S. Marilandica *L.*
Zizia integerrima *DC.*
Apium graveolens *L.*
Cornus Canadensis *L.*
Lonicera oblongifolia *Muhl.*
Viburnum nudum *L.*
V. pubescens *Pursh.*
V. Opulus *L.*
Galium trif. *var.* pusillum *Gr.*
Mitchella repens *L.*
Houstonia purp. *v.* ciliolata *Gr.*
Valeriana sylvatica *Richards.*
Eupatorium teucrifolium *Willd.*
E. hyssopifolium *L.*
Sericocarpus conyzoides *Nees.*
Aster spectabilis *Ait.*
A. concolor *L.*
A. patens *Ait.*
A. miser *L.*
A. flexuosus *Nutt.*
Erigeron annuum *Pers.*
E. Philadelphicum *L.*
E. Canadense *L.*
Diplopappus cornifolius *Darl.*
Solidago bic. *var.* concolor *Gr.*
S. cæsia *L.*
S. Virga-aurea *L.*
S. thyrsoidea *Meyer.*
S. sempervirens *L.*
S. Muhlenbergii *T. & G.*
S. ulmifolia *Muhl.*
Baccharis halimifolia *L.*
Polymnia Uvedalia *L.*
Rudbeckia hirta *L.*
Helianthus annuus *L.*
Bidens frondosa *L.*
B. cernuus *L.*
Leucanthemum vulgare *var.* tubuliflorum *Tenney.*
Gnaphalium polycephalum *Mx.*
Cichorium Intybus *L.*
Krigia Virginica *Willd.*

Hieracium scabrum *Michx.*
Calendula officinalis *L.*
Nabalus albus *Hook.*
N. altissimus *Hook.*
N. Frazeri *DC.*
Tragopogon pratensis *L.*
Lactuca Canadensis *L.*
Sonchus arvensis *L.*
Lobelia Kalmii *L.*
L. Dortmanna *L.*
Campanula aparinoides *Pursh.*
Vaccinium stamineum *L.*
V. Canadense *Kalm.*
V. Pennsylvanicum *Lam.*
V. cæspitosum *Michx.*
Chiogenes hispidula *T. & G.*
Gaultheria procumbens *L.*
Kalmia latifolia *L.*
K. angustifolia *L.*
Azalea nudiflora *L.*
Ledum latifolium *Ait.*
Pyrola rotund. *v.* uliginosa *Gr.*
P. chlorantha *Swartz.*
P. secunda *L.*
P. s. *var.* pumila *Paine.*
Lysimachia thyrsiflora *L.*
L. stricta *Ait.*
Utricularia intermedia *Hayne.*
Epiphegus Virginiana *Bart.*
Linaria vulgaris *Mill.*
Castilleia coccinea *Spreng.*
Pedicularis Canadensis *L.*
Mentha piperita *L.*
M. Canadensis *L.*
Collinsonia Canadensis *L.*
Monarda didyma *L.*
Physostegia Virginiana *Benth.*
Lamium album *L.*
Lithospermum officinale *L.*
L. latifolium *Michx.*
Cynoglossum Morisoni *DC.*
Hydrophyllum Virginicum *L.*
Polemonium cæruleum *L.*
Gentiana Sap. *var.* linearis *Gr.*
Menyanthes trifoliata *L.*
Limnanthemum lacunosum *Gri.*
Asclepias quadrifolia *Jacq.*
A. verticillata *L.*
Asarum Canadense *L.*
Chenopodium hybridum *L.*
C. murale *L.*
C. ambrosioides *L.*
Chenopodium anthelminticum *L.*
Atriplex patula *v.* littoralis *Gr.*
A. arenaria *Nutt.*
Salicornia herbacea *L.*
S. Virginica *L.*
S. ambigua *Michx.*
Suæda maritima *Dumort.*
Salsola Kali *L.*
Amarantus retroflexus *L.*
Polygonum aviculare *L.*
P. articulatum *L.*
Fagopyrum Tartaricum *Gært.*
Rumex orbiculatus *Gray.*
R. obtusifolius *L.*
Euphorbia polygonifolia *L.*
E. platyphylla *L.*
Empetrum nigrum *L.*
Juglans cinerea *L.*
J. regia *Willd.*
Quercus macrocarpa *Michx.*
Q. ilicifolia *Wang.*
Corylus rostrata *Ait.*
Carpinus Americana *Michx.*
Myrica cerifera *L.*
Betula lenta *L.*
B. alba *var.* populifolia *Spa*
B. papyracea *Ait.*
Alnus serrulata *Ait.*
Populus balsamifera *L.*
Salix tristis *Ait.*
S. humilis *Marshall.*
S. nigra *Marshall.*
S. Babylonica *Tourn.*
S. longifolia *Muhl.*
S. myrtilloides *L.*
Pinus rigida *Miller.*
P. inops *Ait.*
P. resinosa *Ait.*
P. Strobus *L.*
Abies nigra *Poir.*
A. alba *Michx.*
Larix Americana *Michx.*
Arisæma triphyllum *Torr.*
Acorus Calamus *L.*
Wolffia Columbiana *Karsten.*
Sparganium simplex *Hudson.*
Naias flexilis *Rostk.*
Potamogeton Oakesianus *Robb*
P. Claytonii *Tuck.*
P. hybridus *Michx.*
P. amplifolius *Tuck.*

Potamogeton lucens *L.*
P. perfoliatus *L.*
P. pectinatus *L.*
Sagittaria variabilis *Engelm.*
S. heterophylla *Gray.*
S. graminea *Michx.*
Vallisneria spiralis *L.*
Habenaria dilatata *Gray.*
H. rotundifolia *Rich.*
H Hookeri *Torr.*
H. blephariglottis *Hook.*
H. psycodes *Gray.*
Goodyera Menziesii *Lindl.*
Spiranthes Romanzoviana *Ch.*
S. gracilis *Bigel.*
Pogonia ophioglossoides *Nutt.*
Calopogon pulchellus *R. Br.*
Calypso borealis *Salisb.*
Corallorhiza multiflora *Nutt.*
Cypripedium parviflorum *Sal.*
Sisyrinchium Bermudiana *L.*
Smilax glauca *Walt.*
Trillium cernuum *L.*
T. erythrocarpum *Michx.*
Trillium erectum *L.*
Uvularia grandiflora *Smith.*
Streptopus amplexifolius *DC.*
Clintonia borealis *Raf.*
Smilacina stellata *Desf.*
Polygonatum biflorum *Ell.*
Asparagus officinalis *L.*
Juncus maritimus *Lam.*
J. pelocarpus *Meyer.*
J. articulatus *L.*
J. alpinus *Villars.*
J. nodosus *L.*
J. n. *v.* megacephalus *Torr.*
J. Canadensis *Gay.*
Xyris flexuosa *v.* pusilla *Gray.*
Eriocaulon septangulare *With.*
Cyperus phymatodes *Muhl.*
C Grayii *Torr.*
Scirpus pauciflorus *Lightf.*
S. Smithii *Gray.*
Fimbristylis capillaris *Gray.*
Rhynchospora capillacea *Torr.*
Cladium mariscoides *Torr.*
Carex gynocrates *Worms.*
C. scirpoidea *Michx.*
C. siccata *Dew.*
C. teretiuscula *Good.*
C. rosea *Schk.*
Carex retroflexa *Muhl.*
C. stellulata *L.*
C. scoparia *Schk.*
C. lagopodioides *Schk.*
C. straminea *Schk.*
C. alata *Torr.*
C. aquatilis *Wahl.*
C. stricta *Lam.*
C. gynandra *Schw.*
C. laxiflora *Lam.*
C. Emmonsii *Dew.*
C. Pennsylvanica *Lam.*
C. varia *Muhl.*
C. extensa *Good.*
C. Œderi *Ehrh.*
C. trichocarpa *Muhl.*
C. pseudo-cyperus *L.*
C. tentaculata *Muhl.*
C. lupuliformis *Sartwell.*
C. Hartii *Dew.*
C. Tuckermani *Boott.*
Agrostis canina *L.*
Calamagrostis Canadensis *Beauv.*
Aristida purpurascens *Poir.*
Brizopyrum spicatum *Hook.*
Eragrostis reptans *Nees.*
E. pectinacea *Gray.*
Triticum repens *L.*
Danthonia compressa *Aust.*
Hierochloa alpina *R. & S.*
Panicum clandestinum *L.*
Cynosurus cristatus *L.*
Pellæa gracilis *Hook.*
P. atropurpurea *Link.*
Woodwardia Virginica *Smith.*
W. angustifolia *Smith.*
Asplenium ebeneum *Ait.*
Scolopendrium vulgare *Smith.*
Camptosorus rhizophyllus *Link.*
Phegopteris hexagonoptera *Fee.*
Onoclea sensibilis *L.*
Botrychium Virginicum *Swartz*
B. simplex *Hitchcock.*
Isoetes Engelmanni *Braun.*
I. echinospora *Durien.*
Nitella acuminata *Braun.*
N. mucronata *Braun.*
N. flexilis *Ag.*
Chara coronata *Ziz.*
C. fragilis *Desv.*

Chara fœtida *Braun.*
C. contraria *Braun.*
Sphagnum subsecundum *Nees.*
S. cuspidatum *Ehrh.*
S. recurvum *Beauv.*
S. laricinum *Lindbg.*
S. Girgensohnii *Russow.*
S. acutifolium *Ehrh.*
S. Wulfianum *Girgen.*
S. Lindbergii *Schp.*
S. cymbifolium *Ehrh.*
S. squarrosum *Pers.*
Andræa crassinervia *Bruch.*
Anodus Donianus *Bryol. Eur.*
Dicranum Schreberi *Hedw.*
D. spurium *Hedw.*
Paludella squarrosa *L.*
Astomum Sullivantii *Schp.*
Barbula fragilis *Wils.*
Amphoridium Mougeoti *B. E.*
A. Peckii *Sulliv.*
Encalypta ciliata *Hedw.*
Amblyodon dealbatus *Beauv.*
Mnium stellare *Hedw.*
M. medium *Schp.*
Coscinodon pulvinatus *B. E.*
Homalia trichomanoides *Schp.*
Hypnum gracile *Br. & Sch.*
H. populeum *Hedw.*
H. scorpioides *L.*
Plagiothecium turfaceum *Lind.*
P. Mullerianum *Schp.*
Riccia Sullivantii *Aust.*
Lunularia vulgaris *Mich.*
Marchantia polymorpha *L.*
Fegatella conica *Corda.*
Grimaldia barbifrons *Bisch.*
Metzgeria pubescens *Raddi.*
M. furcata *Nees.*
Aneura palmata *Nees.*
Lophocolea heterophylla *Nees.*
Jungermannia bicuspidata *L.*
J. divaricata *Eng. Bot.*
J. setiformis *Ehrh.*
Plagiochila spinulosa *N. & M.*
P. asplenioides *N. & M.*
Frullania Hutchinsiæ *Nees.*
Radula pallens *Nees.*
Lepidozia reptans *Nees.*
Usnea barbata *L.*
U. longissima *Ach.*
Alectoria jubata *L.*
Evernia prunastri *L.*
E. furfuracea *Mann.*
Ramalina calicaris *Fr.*
Solorina saccata *Ach.*
Peltigera canina *Hoffm.*
P. polydactyla *Hoffm.*
P. aphthosa *Hoffm.*
P. horizontalis *Hoffm.*
Nephroma lævigatum *Ach.*
N. papyraceum *Schaer.*
N. tomentosum *Koerb.*
N. arcticum *Fr.*
N. Helveticum *Ach.*
Sticta sylvatica *Ach.*
S. quercizans *Ach.*
S. glomerulifera *Delise.*
S. pulmonaria *Ach.*
Cetraria cucullata *Ach.*
C. Islandica *Ach.*
C. aculeata *Fr.*
C. ciliaris *Ach.*
C. lacunosa *Ach.*
C. Oakesiana *Tuck.*
Parmelia olivacea *Ach.*
P. stygia *Ach.*
P. conspersa *Ach.*
P. tiliacea *Ach.*
P. perlata *Ach.*
P. crinita *Ach.*
P. saxatilis *Ach.*
P. caperata *Ach.*
P. pertusa *Schaer.*
P. physodes *Ach.*
Pyxine coc. *var.* sorediata *Tuck.*
Theloschistes parietinus *Norm.*
T. chrysophthalmus *Th. Fr.*
Physcia aq. *var.* detonsa *Tuck.*
P. pulverulenta *Fr.*
P. speciosa *Ach.*
P. obscura *Nyl.*
P. stellaris *Wallr.*
P. cæsia *Ach.*
Placodium aurantiacum *Lightf.*
P. cerinum *Ach.*
Lecanora tartarea *Ach.*
L. atra *Ach.*
L. cinerea *Fr.*
L. pallida *Schaer.*
L. pallescens *Schaer.*
L. varia *Ach.*
L. subfusca *Ach.*
L. el. *var.* ochrophæa *Tuck.*

Lecanora muralis *Schaer.*
Lecidea enteroleuca *Ach.*
L. sanguinaria *L.*
L. contigua *Fr.*
Gyalecta lutea *Tuck.*
Urceolaria scruposa *L.*
Bæomyces æruginosus *DC.*
B Ericetorum *DC.*
Pilophoron Fibula *Tuck.*
Stereocaulon tomentosum *Fr.*
S. paschale *L.*
Cladonia Mitrula *Tuck.*
C. degenerans *Fl.*
C. gracilis *Fr.*
C. amaurocræa *Fl.*
C. furcata *Fl.*
C. pyxidata *Fr.*
C. fimbriata *Fr.*
C. squamosa *Hoffm.*
C. rangiferina *Hoffm.*
C. uncialis *Fr.*
C. cornucopioides *L.*
C. cristatella *Tuck.*
Biatora atropurpurea *Tuck.*
B. chlorantha *Tuck.*
B. vernalis *Fr.*
B. rufonigra *Tuck.*
B. sanguineoatra *Fr.*
B. viridescens *Fr.*
Buellia petræa *Tuck.*
B. lactea *Kærb.*
B. parasema *Kærb.*
B. myriocarpa *Tuck.*
Umbilicaria Dillenii *Tuck.*
U. hirsuata *Ach.*
U. proboscidea *L.*
U. Muhlenbergii *Ach.*
U. pust. *var.* papulosa *Tuck*
Pannaria lanuginosa *Ach.*
P. microphylla *Mass.*
Conotrema urceolatum *Tuck.*
Pyrenula nitida *Ach.*
Trypethelium virens *Tuck.*
Graphis scripta *Ach.*
Collema nigrescens *Ach.*
C. flaccidum *Ach.*
C. ryssoleum *Tuck.*
Leptogium lacerum *Fr.*
L. chloromelum *Nyl.*
L. tremelloides *L.*
L. saturninum *Dicks.*
Pertusaria pertusa *L.*
Pertusaria Wulfenii *DC.*
P. velata *Nyl.*
P. globularis *Ach.*
Agaricus muscarius *Fr.*
A. procerus *Scop.*
A. Americanus *Pk.*
A. cristatus *Bolt.*
A. melleus *Vahl.*
A. laccatus *Scop.*
A. ochropurpureus *Berk.*
A. radicatus *Bull.*
A. velutipes *Curt.*
A. ostreatus *Jacq.*
A. salignus *Pers.*
A. petaloides *Bull.*
A. atrocœruleus *Fr.*
A. applicatus *Batsch.*
A. semi-captus *B. & C.*
A. Curtisii *Berk.*
A. polychrous *Berk.*
A. campestris *L.*
A. arvensis *Schaeff.*
A. cretaceus *Fr.*
A. sublateritius *Schaeff.*
A. Sphagnorum *Pers.*
Coprinus comatus *Fr.*
Paxillus atro-tomentosus *Fr.*
Hygrophorus ceraceus *Fr.*
H. conicus *Fr.*
Lactarius Indigo *Schw.*
L. volemus *Fr.*
L. subtomentosus *B. & R.*
L. angustissimus *Lasch.*
Russula emetica *Fr.*
Cantharellus crispus *Fr.*
Marasmius plancus *Fr.*
M. androsaceus *Fr.*
M. Rotula *Fr.*
M. velutipes *B. & C.*
Lentinus Lecomtei *Fr.*
Panus stypticus *Fr.*
P. dorsalis *Fr.*
Schizophyllum commune *Fr*
Lenzites betulina *Fr.*
L. sepiaria *Fr.*
L. Cratægi *Berk.*
Polyporus ovinus *Schæff.*
P. luridus *B. & C.*
P. tomentosus *Fr.*
P. perennis *Fr.*
P. Boucheanus *Fr.*
P. elegans *Fr.*

Polyporus giganteus *Fr.*
P. sulfureus *Fr.*
P. lacteus *Fr.*
P. adustus *Fr.*
P. cerifluus *B. & C.*
P. scutellatus *Schw.*
P. carneus *Nees.*
P. cinnabarinus *Fr.*
P. hirsutus *Fr.*
P. versicolor *Fr.*
P. abietinus *Fr.*
P. Sullivantii *Mont.*
P. Virgineus *Schw.*
P. medulla-panis *Fr.*
P. laceratus *Berk.*
Dædalea cinerea *Fr.*
D. confragosa *Bolt.*
Glœoporus nigropurpurascens *S*
Merulius tremellosus *Schrad.*
Fistulina hepatica *Fr.*
Hydnum repandum *L.*
H. suaveolens *Scop.*
H. coralloides *Scop.*
H. Erinaceus *Bull.*
H. gelatinosum *Scop.*
H. cirrhatum *Pers.*
Irpex Tulipiferæ *Schw.*
I. deformis *Fr.*
I. cinnamomeus *Fr.*
Craterellus cornucopioides *P.*
Thelephora pallida *Schw.*
T. palmata *Fr.*
Stereum fasciatum *Fr.*
S. striatum *Fr.*
S. complicatum *Fr.*
S. purpureum *Pers.*
S. spadiceum *Fr.*
S. ochraceo-flavum *Schw.*
S. bicolor *Fr.*
S. rubiginosum *Schrad.*
S. tabacinum *Fr.*
Corticium Oakesii *B. & C.*
Clavaria stricta *Pers.*
C. inæqualis *Fr.*
C. juncea *Fr.*
Pistillaria Muscicola *Fr.*
Spathularia flavida *Pers.*
Tremella aurantia *Schw.*
T. mesenterica *Retz.*
Exidia Auricula-Judæ *Fr.*
E. glandulosa *Fr.*
E. cinnabarina *B. & C.*
Dacrymyces stillatus *Fr.*
Lycoperdon pyriforme *Schæff.*
L. gemmatum *Batsch.*
L. calvescens *B. & C.*
L. Wrightii *B. & C.*
Bovista plumbea *Pers.*
Geaster hygrometricus *Pers.*
Scleroderma vulgare *Fr.*
Mycrothyrium microscopicum *D.*
Sphæronema consors *B. & C.*
Diplodia Viticola *Desm.*
Sphæropsis insignis *B. & C.*
Vermicularia Liliaceorum *Schw.*
Septoria herbarum *B. & C.*
Stilbospora ovata *Pers.*
S. pyriforme *Hoffm.*
Cytispora rubescens *Fr.*
C. leucosperma *Fr.*
Nemaspora crocea *Pers.*
Myxosporium nitidum *B. & C.*
Torula herbarum *Pers.*
Septonema spilomeum *Berk.*
Argema speciosum *Fr.*
Puccinia aculeata *Schw.*
P. solida *Schw.*
P. graminis *DC.*
P. Waldsteiniæ *Curt.*
P. Junci *Schw.*
P. investita *Schw.*
Uredo Rubigo *DC.*
U. caricina *DC.*
U. epitea *Kz.*
U. Polygonorum *DC.*
U. Solidaginis *Schw.*
U. Potentillæ *DC.*
U. Ruborum *DC.*
U. luminata *Schw.*
U. effusa *Strauss.*
U. Leguminosarum *Lk.*
U. Violarum *DC.*
Uromyces Hyperici *Schw.*
U. apiculosa *Lev.*
U. Lespedezæ-violaceæ.
U. Lesp.-procumbentis.
Ustilago Maydis *Corda.*
U. Junci *Schw.*
U. urceolorum *DC.*
U. utriculosa *Nees.*
Rœstelia lacerata *Sow.*
Æcidium Grossulariæ *DC.*
Æ. Houstoniatum *Schw.*

Æcidium Sambuci *Schw.*
Æ. Hydnoideum *B. & C.*
Æ. Compositarum *Mart.*
Æ. aroidatum *Schw.*
Æ. Gnaphaliatum *Schw.*
Cystopus candidus *Lev.*
Tuberculariа vulgaris *Tode.*
T. granulata *Pers.*
Sporocybe calicioides *Fr.*
Polythrincium Trifolii *Kz.*
Cladosporium herbarum *Lk.*
Podosporium rigidum *Schw.*
Penicillium crustaceum *Fr.*
Morchella esculenta *Pers.*
Helvella esculenta *L.*
Geoglossum hirsutum *Pers.*
Peziza macropus *Pers.*
P. scutellata *L.*
P. calycina *Schum.*
P. Agassizii *B. & C.*
P. citrina *Batsch.*
P. lenticularis *Fr.*
P. sanguinea *Pers.*
P. Viticola *Pers.*
P. translucida *B. & C.*
P. herbarum *Pers.*
P. compressa *A. & S.*
Ascobolus conglomeratus *Schw.*
Bulgaria sarcoides *Fr.*
Solenia candida *Pers.*
Sphinctrina turbinata *Fr.*
Eustilbum Rehmianum *Rab.*
Patellaria discolor *Mont.*
P. rhabarbarina *Berk.*
Urnula Craterium *Fr.*
Dermatea fascicularis *Fr.*
Cenangium Pinastri *Fr.*
C. populinum *Schw.*
C. Ribis *Fr.*
Dichæna faginea *Fr.*
Rhytisma Solidaginis *Schw.*
R. acerinum *Fr.*
R. decolorans *Fr.*
R. Vaccinii *Fr.*
R. Prini *Fr.*
R. punctatum *Fr.*
R. salicinum *Fr.*
R. Blakei *Curt.*
Phacidium crustaceum *B. & C.*
Hysterium hiascens *B. & C.*
H. lineare *Fr.*
H. Pinastri *Schrad.*
Xylaria polymorpha *Pers.*
X. Hypoxylon *Ehrh.*
Hypocrea citrina *Fr.*
H. Lactifluorum *Schw.*
Hypoxylon fuscum *Pers.*
H. ustulatum *Bull.*
H. fragiforme *Pers.*
H. cohærens *Pers.*
Diatrype stigma *Fr.*
D. disciformis *Fr.*
Nectria cinnabarina *Fr.*
N. sanguinea *Fr.*
N. cucurbitula *Fr.*
Valsa nivea *Fr.*
V. Americana *B. & C.*
V. constellata *B. & C.*
V. stilbostoma *Fr.*
Sphæria ovina *Pers.*
S. pulvis-pyrius *Pers.*
S. pertusa *Pers.*
S. fissurarum *B. & C.*
S. Saubineti *Mont.*
S. picea *Pers.*
S. Ulmea *Schw.*
S. Lespedezæ *Schw.*
S. rostrata *Fr.*
S. limæformis *Schw.*
S. aculeata *Schw.*
S. acuminata *Sow.*
S. nigrella *Fr.*
S. Verbascicola *Schw.*
S. punctiformis *Pers.*
S. Coryli *Batsch.*
S. fimbriata *Pers.*
S. quercina *Pers.*
S. Desmazierii *B. & Br.*
S. sordaria *Fr.*
Dothidea ornans *Schw.*
Erysiphe Ceanothi *Schw.*
E. Vaccinii *Schw.*
E. communis *Schlecht.*
Phyllactinia guttata *Lev.*
Depazea brunnea *B. & C.*
D. cruenta *Fr.*
Erineum fagineum *Pers.*
E. luteolum *Kz.*
E. alnigerum *Kz.*
E. aureum *Pers.*
E. Vitis *DC.*
Sclerotium Orobanches *Schw.*
S. varium *Pers.*
S. populinum *Pers.*

(2.)

SPECIES OF WHICH SEEDS HAVE BEEN MOUNTED.

Clematis Virginiana *L.*
Thalictrum Cornuti *L.*
Caltha palustris *L.*
Trollius laxus *Salisb.*
Actæa alba *Bigel.*
Ranunculus recurvatus *Poir.*
R. abortivus *L.*
Aquilegia Canadensis *L.*
Corydalis glauca *Pursh.*
Polanisia graveolens *Raf.*
Arabis Canadensis *L.*
A. hirsuta *Scop.*
Cardamine hirsuta *L.*
Viola pedata *L.*
V. pubescens *Ait.*
Drosera rotundifolia *L.*
Hypericum ellipticum *Hook.*
H. Sarothra *Michx.*
Helianthemum Canadense *Mx.*
Lechea minor *Lam.*
L. major *Michx.*
L. thymifolia *Pursh.*
Elodea Virginica *Nutt.*
Mollugo verticillata *L.*
Silene stellata *Ait.*
S. noctiflora *L.*
Lychnis Githago *Lam.*
Malva rotundifolia *L.*
Abutilon Avicennæ *Gærtn.*
Lupinus perennis *L.*
Robinia Pseudacacia *L.*
Amphicarpæa monoica *Nutt.*
Lespedeza violacea *Pers.*
Medicago lupulina *L.*
Baptisia tinctoria *R. Br.*
Melilotus officinalis *Willd.*
M. alba *Lam.*
Rhamnus alnifolius *L'Her.*
Vitis cordifolia *Michx.*
Rhus Toxicodendron *L.*
Geranium maculatum *L.*
Portulaca oleracea *L.*
Prunus Virginiana *L.*
Geum Virginianum *L.*
Agrimonia Eupatoria *L.*
Rubus villosus *Ait.*
R. Canadensis *L.*
Rubus strigosus *Michx.*
R. occidentalis *L.*
Rosa rubiginosa *L.*
R. micrantha *Smith.*
Epilobium hirsutum *L.*
Œnothera biennis *L.*
Penthorum sedoides *L.*
Saxifraga Virginiensis *Michx.*
Mitella diphylla *L.*
M. nuda *L.*
Hamamelis Virginica *L.*
Aralia nudicaulis *L.*
Pastinaca sativa *L.*
Cornus florida *L.*
C. Canadensis *L.*
Lonicera oblongifolia *Muhl.*
Viburnum acerifolium *L.*
V. Opulus *L.*
Mitchella repens *L.*
Valeriana sylvatica *Richards.*
Vernonia Noveboracensis *Willd*
Eupatorium ageratoides *L.*
E. perfoliatum *L.*
Hieracium venosum *L.*
H. scabrum *Michx.*
H. Gronovii *L.*
H. paniculatum *L.*
Bidens bipinnata *L.*
Ambrosia artemisiæfolia *L.*
A. trifida *L.*
Xanthium Strumarium *L.*
Cirsium muticum *Michx.*
C. lanceolatum *Scop.*
C. discolor *Spreng.*
Helianthus strumosus *L.*
H. giganteus *L.*
H. divaricatus *L.*
H. decapetalus *L.*
Iva frutescens *L.*
Taraxacum Dens-leonis *Desf.*
Mulgedium leucophæum *DC.*
Nabalus altissimus *Hook.*
Sonchus oleraceus *L.*
S. asper *Vill.*
Campanula rotundifolia *L.*
Vaccinium cæspitosum *Michx.*
Kalmia latifolia *L.*

Azalea nudiflora *L.*
Chiogenes hispidula *T. & G.*
Gaultheria procumbens *L.*
Epiphegus Virginiana *Bart.*
Gerardia flava *L.*
Verbascum Thapsus *L.*
Collinsonia Canadensis *L.*
Isanthus cæruleus *Michx.*
Trichostema dichotomum *L.*
Solanum Dulcamara *L.*
Physalis viscosa *L.*
Cuscuta Gronovii *Willd.*
Phytolacca decandra *L.*
Polygonum dumetorum *L.*
P. sagittatum *L.*
P. Persicaria *L.*
P. aviculare *L.*
P. Hydropiper *L.*
Lindera Benzoin *Meisner.*
Asclepias Cornuti *Decaisne.*
A. obtusifolia *Michx.*
Chenopodium glaucum *L.*
C. album *L.*
C. hybridum *L.*
Atriplex arenaria *Nutt.*
Euphorbia polygonifolia *L.*
E. platyphylla *L.*
Urtica urens *L.*
Bœhmeria cylindrica *Willd.*
Betula lenta *L.*
B. alba *var.* populifolia *Sp.*
B. papyracea *Ait.*
Abies nigra *Poir.*
Naias flexilis *Rostk.*
Empetrum nigrum *L.*
Scheuchzeria palustris *L.*
Sagittaria variabilis *Engelm.*
Corallorhiza multiflora *Nutt.*
Sisyrinchium Bermudiana *L.*
Smilax tamnoides *L.*
Trillium erectum *L.*
T. erythrocarpum *Michx.*
Clintonia borealis *Raf.*
Smilacina racemosa *Desf.*
Asparagus officinalis *L.*
Lilium Canadense *L.*
Juncus marginatus *Rostk.*
J. maritimus *Lam.*
J. bufonius *L.*
J. tenuis *Willd.*
J. alpinus *Vill.*
J. Canadensis *Gay.*
Cyperus Grayii *Torr.*
C. filiculmis *Vahl.*
Eleocharis obtusa *Schultes.*
Scirpus pauciflorus *Lightf.*
S. planifolius *Muhl.*
S. pungens *Vahl.*
Eriophorum alpinum *L.*
Rhynchospora glomerata *Vahl*
Carex pauciflora *Lightf.*
C. siccata *Dew.*
C. teretiuscula *Good.*
C. vulpinoidea *Michx.*
C. stellulata *L.*
C. scoparia *Schk.*
C. irrigua *Smith.*
C. Emmonsii *Dew.*
C. arctata *Boott.*
C. filiformis *L.*

(3.)

PLANTS COLLECTED.

Anemone nemorosa *L.*
Aquilegia vulgaris *L.*
Dicentra cucullaria *DC.*
Menispermum Canadense *L.*
Liriodendron Tulipifera *L.*
Dianthus Armeria *L.*
Spergularia media *Presl.*
Althæa rosea *Cav.*
Rhus venenata *DC.*
Trifolium procumbens *L.*
Lathyrus maritimus *Bigel.*
Thaspium aureum *Nutt.*
Aralia nudicaulis *L.*
Nabalus nanus *DC.*
N. Boottii *DC.*
Specularia perfoliata *Lam.*
Campanula rotundifolia *L.*
Lobelia Nuttallii *DC.*

Œnothera fruticosa *L.*
Vaccinium vacillans *Solan.*
V. Pennsylvanicum *Lam.*
Azalea viscosa *L.*
Rhinanthus Crista-galli *L.*
Apocynum cannabinum *L.*
Vincetoxicum nigrum *Mœnch.*
Nemopanthes Canadensis *DC.*
Polygonum maritimum *L.*
Parietaria Pennsylvanica *Muhl.*
Quercus obtusiloba *Michx.*
Betula glandulosa *Michx.*
Salix sericea *Marshall.*
Lemna Torreyi *Aust.*
Cypripedium pubescens *Willd.*
Habenaria bracteata *R. Br.*
Goodyera Menziesii *Lindl.*
Spiranthes gracilis *Bigel.*
Erythronium Americanum *Sm.*
Allium tricoccum *Ait.*
Uvularia sessilifolia *L.*
Eleocharis tennis *Schultes.*
Carex pubescens *Muhl.*
C. fœnea *Willd.*
C. alata *Torr.*
Calamagrostis Pickeringii *Gray*
Stipa Richardsonii *Lk.*
Phleum pratense *L.*
Bromus racemosus *L.*
B. sterilis *Torr.*
Triticum vulgare *Vill.*
Pellæa gracilis *Hook.*
Woodsia glabella *R. Br.*
Aspidium fragrans *Swartz.*
Bruchia flexuosa *Schwægr.*
Schistidium confertum *Funk.*
Placodium cerinum *Ach.*
Buellia geographica *Schær.*
Calicium subtile *Pers.*
C. Curtisii *Tuck.*
Mycoporum pycnocarpum *Tuck.*
Biatora Hypnophila *Tuck.*
Chorda lomentaria *Lb.*
Nemalion multifidum *J. Ag.*
Polysiphonia subcontorta *Peck.*
Callithamnion virgatulum *Har.*
Elachista Fucicola *Fr.*
Cladophora uncialis *Fl. Dan.*
Calothrix Confervicola *Ag.*
Hydrodictyon utriculatum *Rot.*
Agaricus vernus *Fr.*
Agaricus Phalloides *Fr.*
A. muscarius *L.*
A. vaginatus *Bull.*
A. Ceciliæ *B. & Br.*
A. farinosa *Schw.*
A. cristatus *Bolt.*
A. clypeolarius *Bull.*
A. naucinus *Fr.*
A. granulosus *Batsch.*
A. melleus *Vahl.*
A. vaccinus *Pers.*
A. variegatus *Scop.*
A. terreus *Schæff.*
A. personatus *Fr.*
A. albo-flavidus *Peck.*
A. nebularis *Batsch.*
A. carnosior *Peck.*
A. infundibuliformis *Schæff.*
A. Adirondackensis *Peck,*
A. Poculum *Peck.*
A. illudens *Schw.*
A. ditopus *Fr.*
A. brumalis *Fr.*
A. metachrous *Fr.*
A. ochropurpureus *B.*
A. laccatus *Scop.*
A. radicatus *Bull.*
A. dryophilus *Bull.*
A. velutipes *Curt.*
A. stipitarius *Fr.*
A. cirrhatus *Pers.*
A. Familia *Peck.*
A. purus *Pers.*
A. galericulatus *Scop.*
A. collariatus *Fr.*
A. prælongus *Peck.*
A. paluster *Peck.*
A. latifolius *Peck.*
A. epipterygius *Scop.*
A. vulgaris *Pers.*
A. sanguinolentus *A. & S.*
A. subincarnatus *Peck.*
A. pulcherrimus *Peck.*
A. Corticola *Pers.*
A. Oculus *Peck.*
A. chryseus *Peck.*
A. scabriusculus *Peck.*
A. umbelliferus *L.*
A. Campanella *Batsch.*
A. Fibula *Bull.*
A. cervinus *Schæff.*
A. nanus *Pers.*

Agaricus leoninus *Schæff.*
A. rhodopolius *Fr.*
A. strictior *Peck.*
A. serrulatus *Fr.*
A. Prunulus *Scop.*
A. Noveboracensis *Peck.*
A. adiposus *Batsch.*
A. temnophyllus *Peck.*
A. polychrous *Berk.*
A. Hallianus *Peck.*
A. autumnalis *Peck.*
A. vernalis *Peck.*
A. Lignicola *Peck.*
A. scorpioides *Fr.*
A. curvo-marginatus *Peck*
A. semiorbicularis *Bull.*
A. fulvus *Peck.*
A. lateritius *Fr.*
A. tener *Schæff.*
A. ovalis *Fr.*
A. Hypnorum *Batsch.*
A. Sphagnorum *Pers.*
A. rimosus *Bull.*
A. lacerus *Fr.*
A. geophyllus *Sow.*
A. sarcophyllus *Peck.*
A. flocculosus *Berk.*
A. subochraceus *Peck.*
A. campestris *L.*
A. Silvicola *Vitt.*
A. Johnsonianus *Peck.*
A. Hornemanni *Fr.*
A. stercorarius *Fr.*
A. semiglobatus *Batsch.*
A. perplexus *Peck.*
A. velutinus *Pers.*
A. cernuus *Mull.*
A. spadiceus *Schæff.*
A. semilanceolatus *Fr.*
A. solidipes *Peck.*
A. campanulatus *L.*
A. papilionaceus *Bull.*
A. retirugis *Batsch.*
A. Fimicola *Fr.*
A. gracilis *Fr.*
A. atomatus *Fr.*
A. disseminatus *Pers.*
A. sulfureoides *Peck.*
A. serotinoides *Peck.*
Coprinus tomentosus *Fr.*
C. niveus *Fr.*
C. micaceus *Fr.*
C. ephemerus *Fr.*
Coprinus plicatilis *Fr.*
Cortinarius caperatus *Fr.*
C. communis *Peck.*
C. luteo-fuscus *Peck.*
C. coloratus *Peck.*
C. collinitus *Fr.*
C. tricolor *Peck.*
C. autumnalis *Peck.*
C. Catskillensis *Peck.*
C. ochraceus *Peck.*
C. squamulosus *Peck.*
C. violaceus *Fr.*
C. albo-violaceus *Fr.*
C. argentatus *Fr.*
C. cinnamomeus *Fr.*
C. sanguineus *Fr.*
C. armillatus *Fr.*
C. distans *Peck.*
C. biformis *Fr.*
C. castaneoides *Peck.*
C. castaneus *Bull.*
C. vernalis *Peck.*
Hygrophorus chrysodon *Bat.*
H. pratensis *Pers.*
H. conicus *Scop.*
H. congelatus *Peck.*
H. Cantharellus *Schw.*
H. nitidus *B. & C.*
Russula fœtens *Fr.*
R. nitida *Fr.*
R. decolorans *Fr.*
Cantharellus cibarius *Fr.*
C. minor *Peck.*
C. lutescens *Fr.*
C. infundibuliformis *Fr.*
C. aurantiacus *Fr.*
C. floccosus *Schw.*
C. dichotomus *Peck.*
Lactarius torminosus *Fr.*
L. affinis *Peck.*
L. uvidus *Fr.*
L. pyrogalus *Fr.*
L. plumbeus *Fr.*
L. piperatus *Fr.*
L. sordidus *Peck.*
L. platyphyllus *Peck.*
L. chrysorheus *Fr.*
L. deliciosus *Fr.*
L. volemus *Fr.*
L. subtomentosus *B. & R.*
L. distans *Peck.*
L. subdulcis *Fr.*
L. camphoratus *Fr.*

Lactarius rufus *Fr.*
L. griseus *Peck.*
L. glyciosmus *Fr.*
Marasmius oreades *Fr.*
M. plancus *Fr.*
M. velutipes *B. & C.*
M. Rotula *Fr.*
M. androsaceus *Fr.*
M. scorodonius *Fr.*
M. campanulatus *Peck.*
M. subvenosus *Peck.*
Lentinus lepideus *Fr.*
L. cochleatus *Fr.*
Boletus edulis *Bull.*
B. luteus *Fr.*
B. flavidus *Fr.*
B. collinitus *Fr.*
B. albus *Peck.*
B. Clintonianus *Peck.*
B. Elbensis *Peck.*
B. pictus *Peck.*
B. spectabilis *Peck.*
B. scaber *Bull.*
B. auriporus *Peck.*
B. retipes *B. & C.*
B. subtomentosus *L.*
B. paluster *Peck.*
B. vermiculosus *Peck.*
B. strobilaceus *Scop.*
B. Sistotrema *Fr.*
Dædalea confragosa *Bolt.*
Favolus Europæus *Fr.*
Polyporus salicinus *Fr.*
P. ulmarius *Fr.*
Hydnum imbricatum *L.*
H. repandum *L.*
Lenzites Cratægi *Berk.*
Thelephora pallida *Schw.*
T. laciniata *Fr.*
Stereum corrugatum *Berk.*
Exidia cinnabarina *B. & C.*
Tulostoma fimbriatum *Fr.*
Lycoperdon cælatum *Bull.*
L. giganteum *Batsch.*
Geaster saccatus *Fr.*
Æthalium septicum *Fr.*
Leocarpus vernicosus *Lk.*
Didymium cinereum *Fr.*
Stemonitis oblonga *Fr.*
Diachea elegans *Fr.*
Arcyria digitata *Schw.*
Trichia clavata *Pers.*

Leptostroma litigiosum *Desm.*
L. filicinum *Fr.*
Diplodia Mori *Berk.*
Sphæronema Spina *B. & C.*
Sphæropsis insignis *B. & C.*
Septoria Liriodendri *B. & C.*
S. Rubi *B. & C.*
S. *Vitis B. & C.*
S. Ænotheræ *B. & C.*
S. destruens *Desm.*
S. sanguinea *Desm.*
S. viride-tingens *Curt.*
Stilbospora magna *Berk.*
S. pyriformis *Hoffm.*
Septonema spilomeum *Berk.*
Spilocæa Pomi *Fr.*
Coniothecium toruloideum.
Aregma mucronatum *Fr.*
Puccinia Cryptotæniæ *Peck.*
P. Circææ *Pers.*
P. aculeata *Schw.*
P. Helianthi *Schw.*
P. Xanthii *Schw.*
P. solida *Schw.*
P. Graminis *DC.*
P. coronata *Cd.*
P, Violarum *Lk.*
P. Compositarum *Schl.*
P. Tiarellæ *B. & C.*
P. Asteris *Schw.*
P. mesomajalis *B. & C.*
P. Umbelliferarum *DC.*
P. Anemones *Pers.*
P. acuminata *Pk.*
Podisoma macropus *Schw.*
Uredo Rubigo vera *Lev.*
U. caricina *DC.*
U. Azaleæ *Schw.*
U. epitea *Kz.*
U. Vacciniorum *Pers.*
U. Potentillarum *DC.*
U. Filicum *Desm.*
U. pustulata *Pers.*
U. Chærophylli *Schw.*
U. Cichoracearum *Lev.*
Trichobasis Howei *Peck.*
Lecythea ovata *Strauss.*
L. cylindrica *Strauss.*
L. gyrosa *Berk.*
Uromyces apiculosa *Lev.*
U. macrospora *B. & C.*
U. Limonii *Lev.*

Polycystis Ranunculacearum.
Ravenelia glanduliformis.
Triphragmium clavellosum *Bk.*
Æcidium Podophylli *Schw.*
Æ. Epilobii *DC.*
Æ. Ænotheræ *Peck.*
Æ. Ranunculi *Schw.*
Æ. Geranii *DC.*
Æ. Impatientis *Schw.*
Æ. Violæ *DC.*
Æ. Aroidatum *Schw.*
Æ. quadrifidum *DC.*
Æ. Claytoniatum *Schw.*
Æ. Compositarum *Mart.*
Æ. pustulatum *Curt.*
Æ. Fraxini *Schw.*
Æ. Orobi *DC.*
Æ. Limonii *Peck.*
Æ. Myricatum *Schw.*
Æ. macrosporum *Peck.*
Cystopus candidus *Lev.*
Illosporium carneum *Fr.*
Sporocybe Persicæ *Fr.*
Helminthosporium Tiara.
H. macrocarpon *Grev.*
Cladosporium herbarum *Lk.*
Macrosporium Cheiranthi *Fr.*
Botrytis Viticola *B. & C.*
Streptothrix atra *B. & C.*
Fusisporium miniatum *B. & C.*
Helvella esculenta *L.*
H. Infula *Schæff.*
Mitrula paludosa *Fr.*
Leotia lubrica *Pers.*
Peziza cochleata *L.*
P. coccinea *Jacq.*
P. nigrella *Pers.*
P. floccosa *Schw.*
P. anomala *Pers.*
P. virginea *Batsch.*
P. aurantia *Fr.*
P. cyathoidea *Bull.*
Ascobolus conglomeratus *Schw.*
Sphinctrina turbinata *Fr.*
Tympanis picastra *B. & C.*
Glonium stellatum *Muhl.*
Hysterium vulvatum *Schw.*
H. Fraxini *Pers.*
H. Rubi *Pers.*
Cordyceps militaris *Fr.*
C. purpurea *Fr.*
Hypocrea lateritia *Fr.*
Rhizina undulata *Fr.*
Hypoxylon multiforme *Fr.*
H. Clypeus *Schw.*
Diatrype virescens *Schw.*
D. Durieei *Mont.*
D. haustellata *Fr.*
Bulgaria rufa *Schw.*
Melogramma Quercuum *Fr.*
Nectria cucurbitula *Fr.*
Sphæria aquila *Fr.*
S. elongata *Fr.*
S. confluens *Fr.*
S. doliolum *Pers.*
S. Spraguei *B. & C.*
S. pertusa *Pers.*
S. fimbriata *Pers.*
S. morbosa *Schw.*
S. Graminis *Pers.*
Depazea Kalmicola *Schw.*
D. Pyrolæ *Fr.*
D. Fraxinicola *Curt.*
D. Smilacicola *Schw.*
Dothidea Robertiani *Fr.*
Massaria vomitoria *B. & C.*
Ascospora Podophylli *Curt.*
Erysiphe fuscata *B. & C.*
E. lamprocarpa *Lev.*
E. communis *Schl.*
Microsphæria Syringæ *Fr.*
M. Vaccinii *Peck.*
Uncinula adunca *Lev.*
Phyllactinia guttata *Lev.*
Eurotium herbariorum *Lk.*

(4.)

LIST OF PLANTS FOUND ON THE EXPOSED SUMMIT OF MT. MARCY.

Coptis trifolia *Salisb.*
Arenaria Grænlandica *Spreng.*
Oxalis Acetosella *L.*
Potentilla tridentata *Ait.*
Rubus strigosus *Michx.*
Pyrus Americana *DC.*
Spiræa salicifolia *L.*
Epilobium angustifolium *L.*
Cornus Canadensis *L.*
Linnæa borealis *Gronov.*
Houstonia cærulea *L.*
Solidago thyrsoidea *Meyer.*
S. Virga-aurea *L.*
Nabalus nanus *DC.*
Vaccinium uliginosum *L.*
V. Pennsylvanicum *Lam.*
Chiogenes hispidula *T. & G.*
Cassandra calyculata *L.*
Kalmia glauca *Ait.*
Rhododendron Lapponicum *W.*
Ledum latifolium *Ait.*
Rhinanthus Crista-galli *L.*
Melampyrum Americanum *Mx.*
Diapensia Lapponica *L.*
Gentiana Sap. *var.* linearis *Gr.*
Empetrum nigrum *L.*
Betula glandulosa *Michx.*
B. papyracea *Ait.*
Alnus viridis *DC.*
Salix Cutleri *Tuck.*
Abies balsamea *Marshall.*
Juniperus communis *L.*
Habenaria dilatata *Gray.*
Veratrum viride *Ait.*
Streptopus amplexifolius *DC.*
Clintonia borealis *Raf.*
Luzula parviflora *Desv.*
Juncus trifidus *L.*
Scirpus cæspitosus *L.*
Eriophorum vaginatum *L.*
Carex scirpoidea *Michx.*
C. vitilis *Fr.*
C. Bigelovii *Torr.*
Agrostis canina *L.*
Calamagrostis Canadensis *Bv.*
C. Pickeringii *Gray.*
Stipa Richardsonii *Lk.*
Poa laxa *Hænke.*
Aira flexuosa *L.*
Hierochloa alpina *R. & S.*
Lycopodium Selago *L.*
L. annotinum *L.*
L. clavatum *L.*
Sphagnum cymbifolium *Ehrh.*
S. acutifolium *Ehrh.*
S. sedoides *Brid.*
S. Pylæsii *Brid.*
Andræa petrophila *Ehrh.*
Arctoa fulvella *Bry. Eur.*
Dicranum polycarpum *Ehrh.*
D. Blyttii *Bry. Eur.*
D. scoparium *L.*
D. elongatum *Schwaegr.*
D. congestum *Brid.*
Fissidens osmundioides *Hedw.*
Ceratodon purpureus *Brid.*
Barbula tortuosa *W. & M.*
Grimmia ovata *W. & M.*
Schistidium confertum *Br. & Sch.*
Racomitrium fasciculare *Brid.*
R. microcarpum *Brid.*
Conostomum boreale *Swartz.*
Bryum nutans *Schreb.*
Aulacomnion turgidum *Schgr.*
Pogonatum alpinum *Brid.*
Polytrichum juniperinum *Hed.*
P. jun. *var.* alpestre *Bry. Eur.*
Myurella julacea *Bry. Eur.*
Hypnum splendens *Hedw.*
H. umbratum *Ehrh.*
H. recurvans *Schwaegr.*
H. Schreberi *Willd.*
H. sarmentosum *Wahl.*
H. Crista-castrensis *L.*
H. rugosum *Ehrh.*
Jungermannia trichophylla *L.*
J. connivens *Dicks.*
J. barb. *var.* attenuata *Mart.*
J. scutata *Web.*
J. Taylori *Hook.*
J. obtusifolia *Hook.*
Scapania nemorosa *Nees.*
Sarcoscyphus Ehrharti *Corda.*
Ptilidium ciliare *Nees.*

Mastigobryum deflexum *Nees.*
Alectoria jubata *Ach.*
Evernia furf. *var.* Cladoniæ *Tk.*
Cetraria islandica *Ach.*
C. ciliaris *Ach.*
C. nivalis *Fr.*
Parmelia conspersa *Ach.*
P. saxatilis *Ach.*
P. stygia *Ach.*
P. physodes *Ach.*
Lecanora tart. *var.* frigida *Ach.*
Bæomyces æruginosus *DC.*
Stereocaulon paschale *Ach.*
Cladonia pyxidata *Fr.*
Cladonia gracilis *Fr.*
Cladonia g. *var.* elongata *Fr.*
C. g. *var.* taurica *Fr.*
C. amaurocræa *Fl.*
C. uncialis *Fr.*
C. rangiferina *Hoffm.*
C. r. *var.* alpestre *Fl.*
C. cornucopioides *L.*
C. cristatella *Tuck.*
Buellia geographica *Schær.*
B. lactea *Kærb.*
B. petræa *Tuck.*
Umbilicaria proboscidea *DC.*
Agaricus Hypnorum *Batsch.*
A. umbelliferus *L.*

(5.)

NAMES OF CONTRIBUTORS, WITH THEIR CONTRIBUTIONS.

Mrs. E. E. ATWATER, Chicago, Ill.

Dianthus Armeria *L.*
Anemone pat. *v.* Nuttalliana *Gr.*
Dalibarda repens *L.*
Achillea Millefolium *L.*
Sabbatia stellaris *Pursh.*
Spiranthes gram. *v.* Walteri *Gr.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Aquilegia vulgaris *L.*
Nymphæa minor *DC.*
N. tuberosa *Paine.*
Alyssum calycinum *L.*
Sisymbrium canescens *Nutt.*
Lepidium ruderale *L.*
Reseda alba *L.*
Raphanus sativus *L.*
Dianthus Armeria *L.*
Lychnis vespertina *Sibth.*
Silene Armeria *L.*
Malva Alcea *L.*
M. moschata *L.*
Althæa rosea *Cav.*
A. ficifolia *Cav.*
Oxalis corniculata *L.*
Saxifraga aizoides *L.*
Sedum ternatum *Michx.*
Trifolium procumbens *L.*
Prunus Americana *Marshall.*
Prunus Mahaleb *L.*
P. Virginiana *L.*
P. Padus *L.*
Rosa setigera *Michx.*
R. micrantha *Smith.*
Coriandrum sativum *L.*
Anethum graveolens *L.*
A. fœniculum *L.*
Aster azureus *Lindl.*
Solidago Houghtonii *T. & G.*
Matricaria Chamomilla *L.*
M. Parthenium *L.*
Lampsana communis *L.*
Tragopogon porrifolius *L.*
Lactuca sativa *L.*
Cirsium altissimum *Spreng.*
Campanula rapunculoides *L.*
Thymus Serpyllum *L.*
Hyssopus officinalis *L.*
Phlox paniculata *L.*

Cuscuta inflexa *Engelm.*
Vinca minor *L.*
Gentiana Andrewsii *Griseb.*
Chenopodium album *L.*
C. murale *L.*
Corispermum hyssopifolium *L.*
Spinacea oleracea *Mill.*
Roubieva multifida *Moquin.*
Atriplex patula *L.*
Amarantus spinosus *L.*
A. hypochondriacus *L.*
Polygonum orientale *L.*
P. lapathifolium *Ait.*
Polygonum incarnatum *Ell.*
Rumex Brittanica *L.*
Rumex obtusifolius *L.*
Euphorbia Peplus *L.*
E. Lathyris *L.*
Juniperus sab. *v.* procumbens *P.*
Sparganium eurycarpum *Engel.*
Tofieldia glutinosa *Willd.*
Carex sterilis *Willd.*
Agaricus acutesquamosus *Wei.*
A. Americanus *Peck.*
Cantharellus cibarius *Fr.*
Boletus strobilaceus *Scop.*
Cyathus striatus *Hoffm.*
Diachea elegans *Fr.*
Cystopus candidus *Lev.*
Peziza granulata *Bull.*

Hon. A. S. JOHNSON, Utica, N. Y.

Agaricus procerus *Scop.*
A. dryophilus *Bull.*
Cantharellus cibarius *Fr.*
Boletus strobilaceus *Scop.*
Clavaria fusiformis *Sow.*
Polyporus lucidus *Fr.*

E. C. HOWE, M. D., New Baltimore, N. Y.

Carex Grayii *Carey.*
Favolus Europæus *Fr.*
Uredo Ari-Virginicæ *Schw.*
U. Vacciniorum *Fr.*
U. Cichoraceorum *Lev.*
Ustilago utriculosa *Tul.*
Æcidium Clematitis *Schw.*
Septoria Plantaginicola *B. & C.*
S. Œnotheræ *B. & C.*
S. Pyri *Cast.*
S. Vitis *B. & C.*
S. sanguinea *Desm.*
S. destruens *Desm.*
Cytispora carphosperma *Fr.*
Sphæropsis Candollei *B. & Br.*
Aregma mucronatum *Fr.*
Sporocybe Persicæ *Fr.*
Puccinia Peckiana *Howe.*
Hypoxylon coprophilum *Fr.*
Fusisporium Buxi *Fr.*
Peziza Caulicola *Fr.*
Patellaria congregata *B. & C*
Sphæria putaminum *Schw.*
Erysiphe Vaccinii *Schw.*
Microsphæria penicillata *Lev.*
Uncinula adunca *Lev.*
Labrella Pomi *Mont.*
Physcia stellaris *Wallr.*
Lecanora pallescens *Ach.*
Placodium cerinum *Ach.*
Biatora rubella *Ehrh.*
Pyrenula nitida *Ach.*
Arthonia Lecideëlla *Fr.*
Rinodina sophodes *Ach.*
R. constans *Tuck.*
Pertusaria velata *Nyl.*
Mycoporum pycnocarpum *Tuc.*
Theloschistes candelarius *L.*
Parmelia Borreri *Turn.*
Dicranum spurium *Hedw.*

G. B. BRAINERD, Brooklyn, L. I.

Chondria Baileyana *Mont.*
C. tenuissima *Ag.*
Desmarestia aculeata *Lamour.*
Ceramium arachnoideum *Ag.*
Callithamnion Baileyi *Harv.*
Callithamnion cruciatum *Ag.*
Enteromorpha intestinalis *Lk.*
Lyngbya flacca *Ag.*
Cladophora fracta *Fl. Dan.*

W. R. GERARD, Poughkeepsie, N. Y.

Eupatorium purpureum *L.*
E. perfoliatum *L.*
Polemonium cæruleum *L.*
Taraxacum Dens-leonis *Desf.*
Lobelia syphilitica *L.*
Aspidium acrostichoides *Sw.*

E. L. HANKENSON, Newark, N. Y.

Impatiens pallida *Nutt.*
Anethum fœniculum *L.*
Alyssum calycinum *L.*

D. F. DAY, Buffalo, N. Y.

Valeriana officinalis *L.*
Nicotiana rustica *L.*
Silybum Marianum *Gært.*

H. GILLMAN, Detroit, Mich.

Goodyera Menziesii *Lindl.*
Fragaria Gillmani *Clinton.*

J. S. MERRIAM, New York.

Ascyrum Crux-Andreæ *L.*
Polygala lutea *L.*

C. F. AUSTIN, Closter, N. J.

Galium Mollugo *L.*
Callitriche verna *L.*
Schistidium confertum *Funk.*
Dicranum pellucidum *Hedw.*
Plagiothecium latebricola *B.E*

Rev. J. FOWLER, New Brunswick.

Clematis Virginiana *L.*
Anemone Virginiana *L.*
Thalictrum Cornuti *L.*
Ranunculus recurvatus *Poir.*
R. Pennsylvanicus *L.*
R. Flam. *var.* reptans *Gr.*
Coptis trifolia *Salisb.*
Aquilegia vulgaris *L.*
Berberis vulgaris *L.*
Nuphar advena *Ait.*
N. luteum *var.* pumilum *Gr.*
Corydalis glauca *Pursh.*
Dentaria diphylla *L.*
Cardamine hirsuta *L.*
Sinapis alba *L.*
S. arvensis *L.*
Viola lanceolata *L.*
V. pubescens *Ait.*
V. tricolor *L.*
Hudsonia tomentosa *Nutt.*
Drosera rotundifolia *L.*
D. longifolia *L.*
Hypericum mutilum *L.*
H. Canadense *L.*
Elodes Virginica *Nutt.*
Lychnis Githago *Lam.*
Arenaria lateriflora *L.*
A. serpyllifolia *L.*
Sagina procumbens *L.*
Spergularia rubra *Presl.*
Impatiens fulva *Nutt.*
Oxalis Acetosella *L.*
O. stricta *L.*
Rhus Toxicodendron *L.*
Acer Pennsylvanicum *L.*
A. saccharinum *Wang.*
A. rubrum *L.*
Vicia Cracca *L.*
Lathyris maritimus *Bigel.*
L. palustris *L.*
Medicago lupulina *L.*
Prunus Virginiana *L.*
P. serotina *Ehrh.*
Geum macrophyllum *Willd.*

Geum rivale *L.*
Potentilla tridentata *Ait.*
P. fruticosa *L.*
Fragaria vesca *L.*
Dalibarda repens *L.*
Rubus Chamæmorus *L.*
R. triflorus *Rich.*
R. hispídus *L.*
Rosa Carolina *L.*
R. lucida *Ehrh.*
R. rubiginosa *L.*
Cratægus Oxyacantha *L.*
Pyrus arbutifolia *L.*
P. Americana *DC.*
Amelanchier Can. *v.* oligocarpa.
Ribes rotundifolium *Michx.*
R. lacustre *Poir.*
R. prostratum *L'Her.*
R. rubrum *L.*
Mitella nuda *L.*
Tiarella cordifolia *L.*
Chrysosplenium Americanum.
Sedum Rhodiola *DC.*
Myriophyllum tenellum *Bigel.*
Hippuris vulgaris *L.*
Œnothera pumila *L.*
Circæa alpina *L.*
Hydrocotyle Americana *L.*
Sanicula Marilandica *L.*
Archangelica atropurpurea *Hm.*
Conioselinum Canadense *T. & G.*
Cicuta maculata *L.*
C. bulbifera *L.*
Sium lineare *Michx.*
Heracleum lanatum *Michx.*
Aralia hispida *Michx.*
A. trifolia *Gray.*
Cornus Canadensis *L.*
Linnæa borealis *Gronov.*
Symphoricarpus racemosus *Mx.*
Lonicera ciliata *Muhl.*
L. cærulea *L.*
Viburnum nudum *L.*
V. Opulus *L.*
Galium trifidum *L.*
G. triflorum *Michx.*
G. asprellum *Michx.*
Mitchella repens *L.*
Houstonia cærula *L.*
Eupatorium purpureum *L.*
Nardosmia palmata *Hook.*
Aster acuminatus *Michx.*
Aster corymbosus *Ait.*
A. puniceus *L.*
A. Radula *Ait.*
A. miser *L.*
A. longifolius *Lam.*
A. simplex *Willd.*
Solidago stricta *Ait.*
S. sempervirens *L.*
S. altissimus *L.*
S. bicolor *L.*
Antennaria margaritacea *R. Br*
Erechthites hieracifolia *Raf.*
Senecio aureus *L.*
Cnicus benedictus *L.*
Hieracium Canadense *Michx.*
H. scabrum *Michx.*
Nabalus albus *Hook.*
Lactuca Canadensis *L.*
Mulgedium leucophæum *DC.*
Artemisia Absinthium *L.*
A. Abrotanum *L.*
Lobelia Dortmanna *L.*
Campanula rotundifolia *L.*
Gaylussacia dumosa *T. & G.*
Vaccinium Canadense *Kalm.*
V. Pennsylvanicum *Lam.*
V. macrocarpon *Ait.*
Epigæa repens *L.*
Cassandra calyculata *Don.*
Andromeda polifolia *L.*
Kalmia glauca *Ait.*
Rhodora Canadensis *L.*
Ledum latifolium *Ait.*
Pyrola rotundifolia *L.*
Moneses uniflora *Gray.*
Chimaphila umbellata *Nutt.*
Monotropa uniflora *L.*
Ilex verticillata *Gray.*
Nemopanthes Canadensis *DC*
Plantago maritima *L.*
Statice Limonium *L.*
Trientalis Americana *Pursh.*
Lysimachia thyrsiflora *L.*
L. stricta *Ait.*
Glaux maritima *L.*
Samolus Valerandi *L.*
Utricularia cornuta *Michx.*
U. clandestina *Nutt.*
Linaria vulgaris *Mill.*
Chelone glabra *L.*
Mimulus ringens *L.*
Veronica Americana *Schw.*

Veronica agrestis *L.*
Rhinanthus Crista-galli *L.*
Mentha sativa *L.*
Lycopus Enrop. *v.* sinuatus *Gr.*
Nepeta Cataria *L.*
N. Glechoma *Benth.*
Leonurus Cardiaca *L.*
Calamintha Clinopodium *Benth.*
Myosotis arvensis *Hoffm.*
M. palustris *With.*
Convolvulus arvensis *L.*
Hyoscyamus niger *L.*
Menyanthes trifoliata *L.*
Apocynum androsæmifolium *L.*
Fraxinus Americana *L.*
Salicornia herbacea *L.*
Suæda maritima *Dumort.*
Salsola Kali *L.*
Polygonum maritimum *L.*
P. Hydropiper *L.*
P. Convolvulus *L.*
Rumex orbiculatus *Gray.*
Quercus tinctoria *Bartram.*
Fagus ferruginea *Ait.*
Myrica Gale *L.*
Betula lenta *L.*
B. papyracea *Ait.*
B. lutea *Michx.*
B. pumila *L.*
Alnus viridis *DC.*
Salix humilis *Marshall.*
S. discolor *Muhl.*
S. myrtilloides *L.*
S. cordata *Muhl.*
S. rostrata *Rich.*
S. lucida *Muhl.*
Populus balsamifera *L.*
Pinus Banksiana *Lamb.*
Juniperus communis *L.*
J. Sab. *v.* procumbens *Ph.*
Arisæma triphyllum *Torr.*
Calla palustris *L.*
Acorus Calamus *L.*
Sparganium simplex *Huds.*
Zannichellia palustris *L.*
Zostera marina *L.*
Ruppia maritima *L.*
Sagittaria graminea *Michx.*
Potamogeton Claytonii *Tuck.*
P. pauciflorus *Pursh.*
Triglochin maritimum *L.*
Habenaria tridentata *Hook.*
Habenaria psycodes *Gray.*
Goodyera repens *R. Br.*
Spiranthes Romanzoviana *Cha.*
Listera convallarioides *Hook.*
Pogonia ophioglossoides *Nutt.*
Calopogon pulchellus *R. Br.*
Corallorhiza multiflora *Nutt.*
Cypripedium acaule *Ait.*
Sisyrinchium Bermudiana *L.*
Trillium cernuum *L.*
Medeola Virginica *L.*
Uvularia sessilifolia *L.*
Streptopus roseus *Michx.*
Clintonia borealis *Raf.*
Smilacina racemosa *Desf.*
S. trifolia *Desf.*
Lilium Canadense *L.*
Luzula campestris *DC.*
Juncus effusus *L.*
J. Balticus *Dethard.*
Eriocaulon septangulare *With.*
Eleocharis obtusa *Schultes.*
E. palustris *R. Br.*
E. tenuis *Schultes.*
E. acicularis *R. Br.*
E. pygmæa *Torr.*
Scirpus cæspitosus *L.*
S. Eriophorum *Michx.*
Eriophorum vaginatum *L.*
E. Virginicum *L.*
E. russoleum *Fr.*
E. polystachyon *L.*
E. gracile *Koch.*
Carex teretiuscula *Good.*
C. stellulata *L.*
C. canescens *L.*
C. vulgaris *Fr.*
C. aquatilis *Wahl.*
C. torta *Boott.*
C. stricta *Lam.*
C. maritima *Vahl.*
C. limosa *L.*
C. aurea *Nutt.*
C. pallescens *L.*
C. gracillima *Schw.*
C. Emmonsii *Dew.*
C. varia *Muhl.*
C. scabrata *Schw.*
C. arctata *Boott.*
C. debilis *Michx.*
C. flexilis *Rudge.*
C. flava *L.*

Carex Œderi *Ehrh.*
C. filiformis *L.*
C. lanuginosa *Michx.*
C. riparia *Curt.*
C. Pseudo-Cyperus *L.*
C. utriculata *Boott.*
C. Tuckermani *Boott.*
C. miliaris *Michx.*
Leersia oryzoides *Swartz.*
Alopecurus aristulatus *Michx.*
Agrostis alba *L.*
Calamagrostis Canadensis *Bv.*
Spartina cynosuroides *Willd.*
Glyceria Canadensis *Trin.*
G. elongata *Trin.*
G. fluitans *R. Br.*
G. maritima *Wahl.*
Triticum caninum *L.*
Hordeum jubatum *L.*
Elymus Virginicus *L.*
Aira cæspitosa *L.*
Hierochloa borealis *R. & S.*
Setaria viridis *Beauv.*
Equisetum hyemale *L.*
E. arvense *L.*
E. sylvaticum *L.*
E. limosum *L.*
Asplenium thelypteroides *Mx.*
Aspidium marginale *Swartz.*
Struthiopteris Germanica *Willd.*
Lycopodium complanatum *L.*
L. dendroideum *Michx.*
L. lucidulum *Michx.*
L. inundatum *L.*

(6.)

EDIBLE FUNGI.

Agaricus cæsareus *Scop.*
Cortinarius cinnamoneus *Fr.*
C. castaneus *Fr.*
Lactarius deliciosus *Fr.*
L. subdulcis *Fr.*
Cantharellus cibarius *Fr.*
Lycoperdon cælatum *Fr.*
L. giganteum *Batsch.*
Boletus luteus *L.*
B. flavidus *Fr.*
B. collinitus *Fr.*
B. subtomentosus *L.*
B. edulis *Bull.*
Hydnum imbricatum *L.*
Helvella Infula *Schæff.*

(7.)

PLANTS FOUND GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

OXALIS CORNICULATA *L.*
In Conservatories, Buffalo. *G. W. Clinton.*

VALERIANA OFFICINALIS *L.*
Buffalo. *D. F. Day.* Escaped from gardens.

SPERGULARIA MEDIA *Presl.*
Shore of Shelter Island opposite Greenport. July.

NABALUS BOOTII *D C.*
Summit of Mt. Whiteface. August.

RHINANTHUS CRISTA-GALLI *L.*
Summit of Mt. Marcy. August.

CUSCUTA ARVENSIS *Beyrich.*
Rockland county. *C. F. Austin.*

CUSCUTA COMPACTA *Juss.*
Near Tappantown. *Austin.*

VINCETOXICUM NIGRUM *Mœnch.*
Waste places about Albany. Introduced.

CALAMAGROSTIS PICKERINGII *Gray.*
Summit of Mt. Marcy. August. In our specimens, the lower palet is two-toothed at the apex, and the panicle is about one-fourth the length of the culm.

STIPA RICHARDSONII *Lk.*
Summit of Mt. Marcy. August.

ASPIDIUM FRAGRANS *Swartz.*
Crevices of rocks at Lake Avalanche, near the trap dyke. August.

Mosses.

BRUCHIA FLEXUOSA *Schwægr.*
Sandy fields. West Albany. June.

DICRANUM PELLUCIDUM *Hedw.*
Ravines. Marathon. *Austin.* Sterile.

PLAGIOTHECIUM LATEBRICOLA *Bry. Eur.*
Swamps at Slate Hill, where it is plentiful. *Austin.*

Lichens.

PLACODIUM CERINUM *Ach.*
Bark of hickory and poplar trees. New Baltimore. *E. C. Howe.* Albany and Center.

THELOSCHISTES CANDELARIUS *L.*
Bark of trees. New Baltimore. *Howe.*

RINODINA SOPHODES *Ach.*
Bark of hickory trees. New Baltimore. *Howe.*

RINODINA CONSTANS *Tuck.*
Bark of pine trees. New Baltimore. *Howe.*

ARTHONIA LECIDEELLA *Fr.*
Bark of hickory trees. New Baltimore. *Howe.*

BIATORA HYPNOPHILA *Tuck.*
Incrusting mosses. Helderberg Mts.

BUELLIA GEOGRAPHICA *Schaer.*
Rocks. Summit of Mt. Marcy and of Mt. Whiteface.

CALICIUM SUBTILE *Pers.*
On old hemlock trunks. Helderberg Mts.

CALICIUM CURTISII *Tuck.*
Bark of sumach, *Rhus typhina.* Helderberg Mts.

MYCOPORUM PYCNOCARPUM *Tuck.*
Bark of trees. New Baltimore. *Howe.* Sandlake.

Algæ.

CHORDA LOMENTARIA *Lb.*
Rocks near low tide limits. Long Island Sound at Greenport and Orient. July.

DESMARESTIA ACULEATA *Lamour.*
Flushing Bay. March. *G. B. Brainerd.*

ELACHISTA FUCICOLA *Fr.*
On Fuci. Long Island Sound at Greenport and Plum Island.

POLYSIPHONIA SUBCONTORTA *n. sp.*
Tufts rigid, two to three inches high, loosely entangled, dark red; filaments slender, naked below, alternately and subdistantly branched above; branches short, subequal, naked at the base, much branched above and expanded into a rigid, subsquarrose bushy tuft of ramuli which are subfusiform and more or less curved or contorted; tubes four, surrounding a small central one; articulations of the leading filaments six to ten times, of the branches two to four times their breadth, those of the ramuli shorter than broad; tetraspores in the swollen part of the ramuli.

The filaments are about as thick as hog bristles, nearly equal in thickness throughout, constituting a leading stem, with its

articulations distinct and very long toward the base, and giving out its branches, which are four or five lines long, at intervals of three or four lines. The plant becomes blackish in drying, and does not adhere closely to paper. In size, consistency and coloration, this species resembles *P. fastigiata*, but in ramification, number of tubes, length of articulations, etc., it is far removed from that species.

Rocks near low-water mark. Long Island Sound at Greenport and Orient. July.

NEMALION MULTIFIDUM *J. Ag.*

Rocks near low-water mark. Long Island Sound at Greenport and Orient. July.

CALLITHAMNION CRUCIATUM *Ag.*

Brooklyn Basin and Fort Hamilton. November–February. *Brainerd.*

CALLITHAMNION VIRGATULUM *Harv.*

On Zostera. Shelter Island. July.

CLADOPHORA UNCIALIS *F. Dan.*

Rocks near low-water mark. Long Island Sound at Greenport and Orient. July.

CALOTHRIX CONFERVICOLA *Ag.*

On algæ. Greenport. July.

LYNGBYA FLACCA *Ag.*

Astoria. April. *Brainerd.*

HYDRODICTYON UTRICULATUM *Ag.*

Hudson River below Albany. September.

Fungi.

FAVOLUS EUROPÆUS *Fr.*

On dead branches. Fort Edward. *Howe.* Greenbush. June. It resembles *Polyporus Boucheanus.*

POLYPORUS SALICINUS, *Fr.*

On prostrate trunks of white birches. Helderberg Mts. June.

POLYPORUS ULMARIUS *Fr.*

On the trunks of birches. Sandlake. April.

HYDNUM IMBRICATUM *L.*

Ground in open woods and groves. New Baltimore. *Howe.* Sandlake. July and August. Edible.

THELEPHORA LACINIATA *Pers.*
Mossy marshy places. Sandlake.

STEREUM CORRUGATUM *Berk.*
On dead saplings. North Greenbush and Knowersville. June.

CLAVARIA FUSIFORMIS *Sow.*
Utica. *A. S. Johnson.* Poughkeepsie. *W. R. Gerard.*

CLAVARIA PISTILLARIS *L.*
Poughkeepsie. *Gerard.*

TULOSTOMA FIMBRIATUM *Fr.*
Sandy soil. Center. May.

LYCOPERDON CÆLATUM *Bull.*
Grassy ground. West Albany. June. Edible.

LYCOPERDON GIGANTEUM *Batsch.*
Pastures. Bethlehem and Greenbush. October. Edible. The edible qualities of this magnificent fungus, though highly extolled, have been by no means overestimated. It affords a most palatable and nutritious diet; it is free from the attacks of insects, grows to a large size, and is easily known by its brown surface cracking into rather large angular areas. It should be procured for the table while the flesh is yet white. It is to be regretted that it is not more common, and it is desirable that efforts should be made to cultivate it. (Plate 1, fig. 1).

GEASTER SACCATUS *Fr.*
On the ground among leaves and woods. Helderberg Mts. June.

LEOCARPUS VERNICOSUS *Lk.*
Bark of hemlock trunks. Helderberg Mts. June.

DIDYMIUM CINEREUM *Fr.*
On stems of grass. Center. June.

ARCYRIA DIGITATA *Schw.*
On dead wood. Greenbush. June.

STEMONITIS OBLONGA *Fr.*
On living stems of bladder nut, *Staphylea trifolia.* Helderberg Mts. June.

DIACHEA ELEGANS *Fr.*

Sticks and leaves, either living or dead, on or near the ground. Buffalo. *Clinton.* Sandlake. August.

CYATHUS STRIATUS *Hoffm.*

Poughkeepsie. September. *Gerard.* Buffalo. *Miss Mary L. Wilson.*

LEPTOSTROMA LITIGIOSUM *Desm.*

Dead stems of *Pteris aquilina.* Greenbush. May.

LEPTOSTROMA FILICINUM *Fr.*

Dead stems of *Pteris aquilina.* Sandlake. April.

SPHÆRONEMA SPINA *B. & C.*

Dead branches of ash trees, *Fraxinus Americana.* Sandlake and Greenbush. May.

DIPLODIA MORI *Berk.*

Dead branches of mulberry, *Morus rubra.* Greenbush. May.

SPHÆROPSIS CANDOLLEI *B. & Br.*

Leaves of box, *Buxus sempervirens.* New Baltimore. *Howe.*

SEPTORIA PLANTAGINICOLA *B. & C.*

On leaves of plantain, *Plantago lanceolata.* New Baltimore. *Howe.*

SEPTORIA LIRIODENDRI *B. & C.*

Leaves of the tulip tree, *Liriodendron Tulipifera.* Sandlake. August.

SEPTORIA RUBI *B. & C.*

Leaves of the low blackberry, *Rubus Canadensis.* Common. July, October.

SEPTORIA PYRI *Cast.*

Leaves of apple trees, *Pyrus Malus.* New Baltimore. *Howe.*

SEPTORIA VITIS *B. & C.*

Leaves of grape vine. New Baltimore. *Howe.* Greenport. July.

SEPTORIA ŒNOTHERÆ *B. & C.*

Leaves of *Œnothera biennis.* Common. July.

SEPTORIA DESTRUENS *Desm.*

Leaves of mallows, *Malva rotundifolia*. New Baltimore. *Howe*. West Albany. June.

SEPTORIA SANGUINEA *Desm.*

Leaves of cherry trees. New Baltimore. *Howe*. Riverhead. July.

SEPTORIA VIRIDE-TINGENS *Curtis in lit. n. sp.**

Spots obscure, vague, confluent, mostly tinged with green; perithecia very abundant, minute, of a waxy appearance, dull amber colored, rarely becoming black; spores thread-like, not septate, $\frac{1}{1000}'$–$\frac{1}{800}'$ long.

On leaves of the wild leek, *Allium tricoccum*. Helderberg Mts. May.

The leaves attacked by this parasite turn yellow as if dying, with a motling, in a confused manner, of a dull green. The perithecia are more abundant on these greenish spots, but not at all limited to them, for they occur upon nearly the whole of the upper surface of the leaf and sparingly on the lower surface. The larger spots often have an arid central space, either wholly or partially retaining the greenish border.

STILBOSPORA MAGNA *Berk.*

Dead branches of ash trees. West Albany. June.

CYTISPORA CARPHOSPERMA *Fr.*

Fallen twigs of plum trees. New Baltimore. *Howe*.

CONIOTHECIUM TORULOIDEUM *B. & C.*

Dead branches of willows. Albany. May.

SPILOCÆA POMI *Fr.*

On apples. Common.

AREGMA MUCRONATUM *Fr.*

Leaves of rose bushes. New Baltimore. *Howe*. Green bush. October.

The specimens of Dr. Howe, as well as those of my own collecting, have the spores 8—10-septate, not 5—7-septate, as described. Still I hesitate to consider them any thing more than an American variety of the species.

TRIPHRAGMIUM CLAVELLOSUM *Berk.*

Leaves of sarsaparilla, *Aralia nudicaulis*. Jordanville and North Elba.

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* This, and other names similarly referred, were given by Rev. M. A. Curtis, to whom specimens were sent for identification; but, having drawn up the descriptions myself, I must be responsible for their accuracy.

PUCCINIA CRYPTOTÆNIÆ *n. sp.*

Spots indistinct, scarcely discolored; sori minute, subcircinating, at length subconfluent; spores about $\frac{1}{300}$′ long, $\frac{1}{1500}$′ broad, irregular, with a slight blunt point or umbo at the apex; pedicel very short.

Under surface of leaves of *Cryptotænia Canadensis*. North Greenbush. June.

PUCCINIA UMBELLIFERARUM *DC.*

Leaves of various umbelliferous plants. North Greenbush. June. New to this country.

PUCCINIA CIRCÆÆ *Pers.*

Leaves of *Circæa Lutetiana* and *C. alpina*. Common. August.

PUCCINIA HELIANTHI *Schw.*

Leaves of *Helianthus divaricatus*. Albany. September.

PUCCINIA XANTHII *Schw.*

Leaves of the cocklebur, *Xanthium strumarium*. West Albany. September.

PUCCINIA VIOLARUM *Lk.*

Leaves of violets. West Albany. September.

PUCCINIA COMPOSITARUM *Schl.*

Leaves of Canada thistle, *Cirsium arvense*. Sandlake. August.

PUCCINIA TIARELLÆ *B. & C.*

Leaves of *Tiarella cordifolia*. Sandlake and North Elba. August and September.

PUCCINIA ASTERIS *Schw.*

Leaves of various species of Aster. Sandlake and North Elba. July and August.

PUCCINIA ANEMONES *Pers.*

Leaves of *Anemone nemorosa* and *Thalictrum Cornuti*. Greenbush and Center. May–August.

PUCCINIA CORONATA *Corda.*

Leaves of oats. North Greenbush. July.

PUCCINIA MESOMAJALIS *B. & C.*

Leaves of *Clintonia borealis*. North Elba. August.

PUCCINIA PECKIANA *Howe n. sp.*

Spots small, concealed by the tomentum of the leaf, yellowish and confluent on the opposite side; spore clusters small, scattered plentifully over the lower surface of the leaf, partly concealed by its tomentum; spores broadly elliptical, rarely subpyriform, scarcely constricted in the middle, brown, $\frac{1}{150}'$ to $\frac{1}{100}'$ long, $\frac{1}{1000}'$ broad, pedicel short, separable.

On leaves of cultivated *Rubus occidentalis*. New Baltimore. August. *Howe.*

Many of the spores, when scraped from the leaf and placed under the microscope, will be seen to have no pedicel, or only a slight remnant of one; others not yet mature have it entire.

PUCCINIA ACUMINATA *n. sp.*

Spots orbicular, purplish; spore clusters confluent, the larger ones forming a circle about a free central space, surrounded by the ruptured epidermis of the leaf; spores oblong, constricted in the middle, pointed at the apex; pedicel shorter than, or equaling the spore, which is $\frac{1}{150}'$ or more in length, and about $\frac{1}{1000}'$ broad.

On the lower surface of leaves of *Cornus Canadensis*. Sandlake and North Elba. August.

The acumination at the apex of the spore is often oblique, sometimes very abrupt and short, sometimes quite long and almost beak-like. Related to *P. Waldsteiniæ*.

PODISOMA MACROPUS *Schw.*

Branches of *Juniperus Virginiana*. Helderberg Mts. and Bethlehem. May.

UREDO AZALEÆ *Schw.*

Leaves of *Azalea nudiflora*. Sandlake. August.

UREDO VACCINIORUM *Johnst.*

Leaves of *Vaccinium corymbosum*. New Baltimore. *Howe.* West Albany. September.

UREDO ARI-VIRGINICI *Schw.*

Leaves of *Arisæma triphyllum* and *Peltandra Virginica*. Common. July.

UREDO CHÆROPHYLLI *Schw.*

Leaves of sweet cicely, *Osmorrhiza brevistylis*. N. Greenbush and Guilderland. June and July.

UREDO CICHORACEARUM *Lev.*

Leaves of dandelion, *Taraxacum Dens-leonis*. New Baltimore. *Howe.* Greenbush. May–August.

UREDO FILICUM *Desm.*

On ferns. North Elba. August.

UREDO PUSTULATA *Pers.*

Leaves of *Epilobium hirsutum*. Albany. September.

TRICHOBASIS HOWEI *n. sp.*

Spore clusters scattered or subconfluent, hypogenous, surrounded by the ruptured epidermis, from one-half to one line in diameter; spores brown, subglobose, roughened with slight indentations, $\frac{1}{1500}' - \frac{1}{1000}'$ in diameter.

On leaves of the milkweed, *Asclepias Cornuti*. North Greenbush. September.

The spore clusters are sometimes sparingly, sometimes profusely scattered over the under surface of the leaf, or over a part of it. The spores are sometimes a little longer than broad, sometimes subpyriform, and occasionally furnished with a slight pedicel.

LECYTHEA OVATA *Strauss.*

Leaves of *Populus grandidentata*. Greenbush. September.

LECYTHEA CYLINDRICA *Strauss.*

Leaves of *Populus monilifera*. Albany. September.

LECYTHEA GYROSA *Berk.*

On the upper surface of leaves of *Rubus hispidus*. Sandlake. August.

UROMYCES MACROSPORA *B. & C.*

Leaves of *Lespedeza capitata*. Albany. September.

UROMYCES LIMONII *Lev.*

Leaves of sea lavender, *Statice Limonium*. Greenport. July.

POLYCYSTIS RANUNCULACEARUM *Desm.*

Leaves of the liverwort, *Hepatica acutiloba*, and of *Anemone Pennsylvanica*. Helderberg Mts. and Greenbush. May and June. New to this country.

RAVENELIA GLANDULIFORMIS *B. & C.*

Leaves and stems of *Tephrosia Virginiana*. Center. October.

ÆCIDIUM EPILOBII *DC.*

Leaves of the evening primrose, *Œnothera biennis*. West Albany. July.

ÆCIDIUM AROIDATUM *Schw.*

Leaves of Indian turnip, *Arisæma triphyllum*. Common. June.

ÆCIDIUM CLAYTONIATUM *Schw.*

Leaves of the Spring beauty, *Claytonia Caroliniana*. Knowersville. May.

ÆCIDIUM QUADRIFIDUM *DC.*

Radical leaves of the wind flower, *Anemone nemorosa*. Center. May. New to this country.

ÆCIDIUM GERANII *DC.*

Leaves of *Geranium maculatum*. North Greenbush. June.

ÆCIDIUM IMPATIENTIS *Schw.*

Leaves of *Impatiens pallida*. Helderberg Mts. July. Poughkeepsie. *Gerard.*

ÆCIDIUM VIOLÆ *DC.*

Leaves of violets. West Albany. June.

ÆCIDIUM FRAXINI *Schw.*

Leaves of ash trees, *Fraxinus Americana*. Bethlehem. June.

ÆCIDIUM OROBI *DC.*

Leaves and petioles of white clover, *Trifolium repens*. Sandlake. September.

ÆCIDIUM RANUNCULI *Schw.*

"*A Ranunculi* (abortivi). Frequens in foliis rotundis radicalibus, expers fere macula."—*Syn. Fung. Car. Sup.* p. 41.

Spots none, the upper surface of the leaf rugose; peridia sub-crowded or loosely scattered over the lower surface, short; spores orange subglobose, $\frac{1}{1500}'$ in diameter; spermogonia abundant, scattered over the lower surface of the same or of different leaves.

On the radical leaves, rarely on the stem leaves of *Ranunculus abortivus*. Greenbush. May.

ÆCIDIUM PODOPHYLLI *Schw.*

Spots large, subconfluent, yellow, not always thickened; peridia very short, hypogenous, crowded; spores bright orange, subglobose, $\frac{1}{1500}'-\frac{1}{1000}'$ in diameter; spermogonia few, scattered on the upper suface.

On leaves of the mandrake, *Podophyllum peltatum*. Bethlehem. June.

The spots occur most often at or near the base of the leaf lobes, where they are frequently confluent.

ÆCIDIUM PUSTULATUM *Curtis in lit., n. sp.*

Spots small, yellowish, sometimes stained with red, thickened, often concave above, convex below; peridia short, subcrowded, often forming a circle about a free central space; spores pale orange, subglobose, $\frac{1}{1000}'$—$\frac{1}{1500}'$ in diameter.

On leaves of toad flax, *Comandra umbellata*. Center. June.

ÆCIDIUM ŒNOTHERÆ *n. sp.*

Spots orbicular, scarcely thickened, reddish purple, sometimes stained with yellow; peridia short, crowded, generally with a small free central space; spores pale orange, subglobose, small, $\frac{1}{2000}'$ in diameter.

On leaves of the evening primrose, *Œnothera biennis*. Knowersville. June.

Not unfrequently a reddish purple dash extends from the spot to the margin of the leaf. The cups sometimes occur sparingly on the upper surface of the leaf. The free central space appears umbilicus-like, and, when present, is a noticeable feature.

ÆCIDIUM MYRICATUM *Schw.*

Spots dark red, much thickened, scattered, very variable in size and shape, often angular; peridia short, subimmersed, scattered or subcrowded; spores very bright orange, subglobose, large, $\frac{1}{1000}'$—$\frac{1}{600}'$ in diameter; spermogonia on the upper surface.

On leaves of the wax-myrtle, *Myrica cerifera*. Riverhead. July.

The white cups, filled with brilliant orange colored spores and sitting upon their dark red or chestnut colored bed, present a beautiful appearance. A few cups sometimes occur on the upper surface. Small spots with but two or three cups have the subiculum distinctly thickened. The species is related to *Æcidium Berberidis*, but is distinguished by its shorter cups and larger spores. I have not found it growing on the petioles of the leaves. After a considerable time the spores fade to a pale yellow.

ÆCIDIUM LIMONII *n. sp.*

This is a species closely related to the preceding one, occurring in thickened spots on the leaves (and their midribs) of *Statice Limonium*, at Greenport. The cups occur upon both surfaces of the leaf, but more sparingly on the upper surface

Our specimens were too old, when collected, for a full description.

ÆCIDIUM MACROSPORUM *n. sp.*

Spots small, orbicular, yellowish, not thickened; peridia elongated, cylindrical, few, generally forming a circle about a free central space; spores yellow or pale orange, minutely roughened, nearly globose, very large, ~~$\frac{1}{150}$~~′ – ~~$\frac{1}{100}$~~′ in diameter; spermogonia numerous, distinct, on the upper surface of the leaf.

On leaves of *Smilax rotundifolia*. Riverhead. July.

There is seldom more than one spot on a leaf, and generally not more than one or two on a plant. The species is quite distinct from *Æcidium Smilacis* Schw., and is related to *Æcidium Hydnoideum* B. & C., from which it differs in its larger spores, fewer cups growing close to the margin of the spot, and in its more distinct spermogonia.

ÆCIDIUM CLEMATITIS *Schw.*

On virgin's bower, *Clematis Virginiana*. New Baltimore. *Howe.*

ILLOSPORIUM CARNEUM *Fr.*

On lichens, *Peltigera aphthosa*. Helderberg Mts.

SPOROCYBE PERSICÆ *Fr.*

On the bark of peach trees. New Baltimore. *Howe.* Also on the wild cherry tree, *Prunus Pennsylvanica*. Sandlake. August.

HELMINTHOSPORIUM TIARA *B. & R.*

Dead branches on the ground. Greenbush. May.

MACROSPORIUM CHEIRANTHI *Fr.*

On dead herbs. Common. May and June.

BOTRYTIS VITICOLA *B. & C.*

Leaves of grape vines. Shelter Island. July.

STREPTOTHRIX ATRA *B. & C.*

On bark of *Juniperus Virginiana*. Bethlehem. June.

FUSISPORIUM BUXI *Fr.*

Leaves of box, *Buxus sempervirens*. New Baltimore. *Howe.*

FUSISPORIUM MINIATUM *B. & C.*

On sap-moistened stumps of deciduous trees. Helderberg Mts. June.

HELVELLA INFULA *Schæff.*
Old trunks and stumps. Catskill Mts. October. Edible.

MITRULA PALUDOSA *Fr.*
On decaying wood and sticks in damp places. Sandlake. August.

LEOTIA LUBRICA *Pers.*
Mossy ground in woods. Sandlake and North Elba. Aug.

PEZIZA COCHLEATA *L.*
Ground in woods. Helderberg Mts. and Greenbush. June.

PEZIZA COCCINEA *Jacq.*
Half buried sticks. Sandlake and Helderberg Mts. April and May.

PEZIZA NIGRELLA *Pers.*
Ground in pine woods. Sandlake. April.

PEZIZA FLOCCOSA *Schw.*
Sticks and branches on the ground. Greenbush. July.

PEZIZA AURANTIA *Fr.*
About the roots of stumps. Greenbush. October. A showy species.

PEZIZA GRANULATA *Bull.*
In flower pots. Buffalo. March. *G. W. Clinton.*

PEZIZA ANOMALA *Pers.*
On dead branches of the water beech, *Carpinus Americana*. Bethlehem. May.

PEZIZA VIRGINEA *Batsch.*
Dead sticks. Greenbush. July.

BULGARIA RUFA *Schw.*
Ground among leaves in woods. Sandlake. August.

RHIZINA UNDULATA *Fr.*×
Ground in woods. Adirondack Mts. August.

× = Pine

TYMPANIS PICASTRA *B. & C.*
Dead trunk of red maple, *Acer rubrum*. Sandlake. April

PATELLARIA CONGREGATA *B. & C.*
On chestnut log. Moreau. *Howe.*

GLONIUM STELLATUM *Muhl.*
Rotton stumps in woods. Helderberg Mts. May.

HYSTERIUM VULVATUM *Schw.*
Dead branches of poplar trees, *Populus tremuloides.* Albany. June.

HYSTERIUM FRAXINI *Pers.*
Dead branches of ash trees. Greenbush. May.

HYSTERIUM RUBI *Pers.*
Dead stems of raspberry, *Rubus strigosus.* Greenbush. June.

LABRELLA POMI *Mont.*
Skin of apples. New Baltimore. *Howe.*

CORDYCEPS MILITARIS *Fr.*
On dead pupæ. Sandlake. August.

CORDYCEPS PURPUREA *Fr.*
On panicles and spikes of grasses and rye. Common. Sterile. This is the well-known *ergot.* Spore-bearing specimens are rarely found.

HYPOCREA LATERITIA *Fr.*
On the gills of *Lactarius uvidus.* North Elba. August.

HYPOXYLON COPROPHILUM *Fr.*
On dung of cows. New Baltimore. *Howe.*

DIATRYPE HAUSTELLATA *Fr.*
On old trunks of water beech, *Carpinus Americana.* Bethlehem. May.

DIATRYPE VIRESCENS *Schw.*
Dead branches of the beech, *Fagus sylvatica.* Sandlake. April.

DIATRYPE DURIÆI *Mont.*
Dead branches of poison sumach, *Rhus venenata.* Guilderland. May.

MELOGRAMMA QUERCUUM *Fr.*
Dead twigs of oak. Center. June.

SPHÆRIA AQUILA *Fr.*
Fallen branches. Greenbush. May.

SPHÆRIA ELONGATA *Fr.*

Dead branches of the locust tree, *Robinia Pseudacacia*. Greenbush. May.

SPHÆRIA CONFLUENS *Fr.*

Dead branches of poplars. Sandlake. April.

SPHÆRIA DOLIOLUM *Pers.*

Dead stems of herbs. Common. May.

SPHÆRIA GRAMINIS *Pers.*

Leaves of grasses. Common. September.

SPHÆRIA SPRAGUEI *B. & C.*

Bark of pine trees, *Pinus Strobus*. West Albany. May.

SPHÆRIA MORBOSA *Schw.*

On the branches of plum and cherry trees. Very common and injurious. This fungus is commonly called "*black knot.*" It is apparently native on our indigenous cherry trees, and, having escaped from them, it has attacked the cultivated one (*Prunus Cerasus*) in some localities with such vigor as to destroy it, and make "cherry raising" an unprofitable business. Cutting away the affected branches and burning them, early in the season, before the fungus has matured its seed, has been recommended. This should be done as early as May, for I have found the spores developed in June. Among our indigenous species of cherry trees, I have found the choke cherry (*Prunus Virginiana*) and the wild cherry (*Prunus Pennsylvanica*) especially liable to the attacks of this fungus. This pest is scarcely less injurious to plum trees.

DEPAZEA KALMICOLA *Schw.*

Leaves of the laurel, *Kalmia latifolia*. Greenport and Catskill Mountains. July, October.

DEPAZEA PYROLÆ *Fr.*

Leaves of prince's pine, *Chimaphila umbellata*. Helderberg Mts. May.

DEPAZEA SMILACICOLA *Schw.*

Leaves of smilax. Riverhead. July.

DEPAZEA FRAXINICOLA *Curtis in lit. n. sp.*

Spots arid, suborbicular, sometimes with a brownish border, one-fourth to one-half an inch in diameter; perithecia black; those well developed are concave above, with a slight central elevation; asci subfusiform, containing four to eight spores apiece; spores densely packed in the asci, oblong or narrowly ellip

tical, having a little nucleus near each end, $\frac{1}{3000}$ – $\frac{1}{1500}$ long, about one-third as wide.

On ash leaves, *Fraxinus Americana*. Albany. September.

ASCOSPORA PODOPHYLLI *Curtis in lit. n. sp.*

Spots arid, rather small, suborbicular, numerous, brown; perithecia minute, black; spores oblong, simple.

Leaves of the mandrake, *Podophyllum peltatum*. Bethlehem. June.

DOTHIDEA ROBERTIANI *Fr.*

Leaves of *Geranium Robertianum*. Helderberg Mts. May and June.

MASSARIA VOMITORIA *B. & C.*

Dead branches of ash and red maple. Sandlake and Greenbush. May and June.

ERYSIPHE FUSCATA *B. & C.*

Leaves of *Bidens connata*. North Greenbush. September. A Sphærotheca.

ERYSIPHE LAMPROCARPA *Lev.*

Leaves of species of Aster, Solidago, Artemisia, Inula, etc. Common. September.

ERYSIPHE VACCINII *Schw.*

Leaves of trailing arbutus, *Epigæa repens*. New Baltimore. *Howe*. Sandlake. September.

UNCINULA ADUNCA *Lev.*

Leaves of willows. Very common. September.

MICROSPHÆRIA FRIESII *Lev.*

Leaves of the lilac, *Syringa vulgaris*. Albany. September.

MICROSPHÆRIA VACCINII *n. sp.*

Conceptacles small, globose; sporangia six to eight, ovate, each containing four to six elliptical spores; appendages ten to twenty, white, very long, length more than twice the diameter of the conceptacles.

On both sides of leaves of *Vaccinium vacillans*. West Albany. October.

EUROTIUM HERBARIORUM *Lk.*

On dried plants. Albany.

ORDER—AGARICINI.

Hymenium inferior, spread over the surface of distinct gill-like processes, which are easily divisible into two plates. *Berk. Outl.* p. 89.*

The Agaricini are cellular, flowerless plants, consisting essentially of an expanded suborbicular part (*pileus or hymenophorum*) bearing on its lower surface thin vertical plates (*lamellæ or gills*) radiating from a central or marginal point, and either attached to its place of growth by a part of its margin, or supported upon a central or lateral stem (*stipe*). The lamellæ or gills consist of two separable membranes (*hymenium*) applied one on either side, to an intermediate stratum (*trama*) and producing minute reproductive bodies (*spores*) on their exterior surfaces.† They may be attached by their inner extremity to the stem and extend a little distance down it (*decurrent*), nearly or quite reach the stem without being attached to it (*free*), or terminate at a considerable distance from it (*remote*). They may have the edge broadly curved, so that they appear bent like a bow (*arcuate*), or shortly curved near the inner extremity, and at the same time be slightly decurrent, so as to appear hook-like (*uncinate*), or they may have the edge rough with little projections or teeth (*serrate*), or simply notched near the inner extremity (*emarginate*).

The stem may be of the same diameter in every part (*equal*), or be thicker in the middle, tapering toward either extremity (*ventricose*). It may be hollow, or have its center of different texture from its exterior (*stuffed*), the center in such case being either cottony or spongy, or it may be of uniform texture throughout its diameter (*solid*). Its base may be coated or fringed with minute entangled filaments (*mycelium*), the immediate product of the spores, while toward its top there is often seen a flabby, lacerated, membranaceous ring (*annulus*) girding it. Sometimes the young plant is completely enveloped by a submembranaceous wrapper (*volva*) which it bursts as it increases in size, and in other cases the envelope may be only partial, and even composed of little flocks or fibres which are scarcely conspicuous. Both the stem and the pileus may be wholly or partially sprinkled with fine, meal-like powder (*farinaceous*), or coated with little fibres (*fibrillose*), or rough with distinct scales or scale-like tufts of fibres (*squamose*), which are sometimes quite minute (*squamulose*). The surface of the pileus in some species is sticky to the touch (*viscid*), in others it may be in moist weather covered with a gelatinous substance (*glutinous*). The flesh of some, when moist, presents a more watery appearance and a greater depth of coloring than

* This and the generic and subgeneric characters hereinafter given are taken from *Berkeley's Outlines of British Fungology*.

† The lamellæ are rarely branched, and in a few instances reduced to obtuse vein-like elevations.

when dry (*hygrophanous*), and in such species, in the moist state, fine, radiating, parallel lines may sometimes be seen on the margin (*striatulate*). The Agaricini comprise by far the greater number of the larger, conspicuous, umbraculiform, fleshy fungi. Individual plants are generally of short duration, growing up in a few hours or days, and decaying as rapidly as they grow. They are more abundant toward the end of the season than in the beginning, and in wet weather than in dry. In long continued dry weather, almost none can be found unless they be sought in deep wet marshes. In some seasons, therefore, they grow much more profusely than in others, and in deep woods and mountainous regions more abundantly than in open cultivated districts.

Unlike most other plants, they are seldom of a green color; red, brown, white and yellow, in an almost infinite variety of shading and blending, being the prevailing hues. The great beauty and variety of their colors, their singular and manifold forms (all, however, variations of a single type), their strangely peculiar habits, perishable nature and remarkable properties, all combine to make them objects of great interest.

Many of them afford very savory and nutritious food, but some are reputed poisonous. Some that are acrid or nauseous in the raw state become pleasant and edible by cooking. Vinegar is known to have the power of abstracting the poisonous properties of the deleterious ones, so that from these two facts it is not improbable that, with proper preparation, nearly all our species may be made edible.

SYNOPSIS OF THE GENERA.

Edge of the lamellæ obtuse ..... vii. CANTHARELLUS.
Edge of the lamellæ acute ..... A.
A. Plant fleshy, with a milky (rarely colored) juice ..... v. LACTARIUS.
A. Plant destitute of a milky juice ..... B.
B. Lamellæ of a waxy texture, with a watery juice ..... iv. HYGROPHORUS.
B. Lamellæ dissolving into an inky fluid ..... ii. COPRINUS.
B. Lamellæ dry, persistent ..... C.
C. Pileus fleshy, putrescent ..... D.
D. Trama vesiculose; spores white or yellow * ..... vi. RUSSULA.
D. Trama filamentous; spores various ..... i. AGARICUS.
D. Trama floccose; spores reddish ochre ..... iii. CORTINARIUS.
C. Pileus firm, coriaceous or subcoriaceous, persistent ..... E.
E. Lamellæ entire ..... viii. MARASMIUS.
E. Lamellæ serrate, thin ..... ix. LENTINUS.

Genus — AGARICUS *L.*

Gills membranaceous, persistent (not melting); trama filamentous, continuous with the substance of the pileus; edge acute. *Fleshy putrescent Fungi.—Berk. Outl.*

* The color of the spores may be determined by cutting a well-developed pileus from its stem and placing it in its natural position on white paper. In a few hours enough spores will descend upon the paper to show their color. White spores show best on black paper. Should the atmosphere be dry or the pileus thin, invert a goblet over the pileus.

The genus Agaricus is a large one, and is divided, by the color of the spores, into five series, which are again divided into subgenera, distinguished by characters of minor importance.

Series 1 — LEUCOSPORI.

Spores white, rarely whitish or yellowish.

Subgenus — Amanita.

Veil universal, distinct from the cuticle of the pileus. Hymenophorum distinct from the stem.—*Berk. Outl.*

Terrestrial species of moderate or large size, at first entirely enveloped in the volva, which is burst by the growing plant, a part being carried up by the pileus and forming evanescent patches or scattered, persistent, wart-like elevations upon its surface; the other part evanescent, or persistent, and attached to the base of the stem. The pileus at length becomes nearly horizontally expanded or slightly depressed, with the margin even or sulcate-striate. The stem is generally rather long, firm, fleshy and stuffed. The spores are subglobose. Most of the species are deemed poisonous.

SYNOPSIS OF THE SPECIES.

Stem annulate ..... a
- a. Margin of the pileus striate ..... b
  - b. Volva loose, sheathing at the base, lamellæ yellow 1
  - b. Volva connate, ruptured at the base into concentric scales 2
- a. Margin of the pileus even c
  - c. Volva appressed at the base 3
  - c. Volva loose, forming a margin to the bulb 4

Stem with no annulus ..... d
- d. Pileus smooth, volva sheathing 5
- d. Pileus warty, volva evanescent 6
- d. Pileus pulverulent, volva evanescent 7

1. AGARICUS CÆSARIUS *Scop.*

Pileus hemispherical, then expanded, striate on the margin, naked, yellow; flesh yellow under the cuticle; lamellæ free, yellow; stipe slightly tapering upward, annulate, sheathed at the base by the volva, stuffed. Utica. *A. S. Johnson.* (V. S.)

This is one of the few edible species of this subgenus.

2. AGARICUS MUSCARIUS *L.*

Pileus at first slightly viscid, hemispherical, then convex, expanded or even slightly depressed, substriate on the margin, warty, rarely naked, red, yellow, or nearly white; flesh yellow under the separable cuticle; lamellæ free, white; stipe cylindrical or slightly tapering upward, annulate

ovate-bulbous and concentrically scaly at the base, stuffed, farinaceous, white, rarely yellow.

Height 6′–8′, breadth of pileus 3′–5′.

Common in open woods and in pastures. August-October.

A beautiful but very variable species. Reputed poisonous, and said to possess intoxicating properties. The color of the pileus varies from orange to white, being commonly yellow, and becoming paler with age. Two varieties are worthy of mention; one, var. *minor*, with the pileus bright orange, 1′–2′ broad, lamellæ tinged with yellow, stipe yellow and not scaly at the base, occurring in woods from June to October; the other, var. *major*, very large, nearly one foot high, with the pileus 8′–10′ in diameter, and with the thick bulb above the surface of the ground, its upper part being often split into thick appressed truncate rays. I have met with this variety but once. Catskill Mountains. October.

3. AGARICUS VERNUS *Bull.*

Pileus at first ovate and slightly viscid, then expanded, smooth, with the margin even; lamellæ free; stipe stuffed, annulate, bulbous, smooth; volva sheathing, appressed.

Height 3′-6′, breadth of pileus 2′-3′.

Found in woods and open places. July. Sag Harbor and Sandlake.

It has a strong odor and is white throughout. The stem is sometimes lacerated.

4. AGARICUS PHALLOIDES *Fr.*

Pileus at first campanulate, and when moist slightly viscid, then expanded with the margin even, smooth, or innately fibrillose; lamellæ white, free; stipe stuffed, annulate, whitish or pallid, bulbous, the bulb large, flattened above, and narrowly margined with the remains of the volva.

Height 4′-6′, breadth of pileus 2′-4′.

In woods. North Elba, West Albany, and Catskill Mountains. August–October.

Pileus white, brown or blackish-brown. I have seen no specimens with a greenish pileus, though such are not rare in Europe. White specimens are easily confounded with the preceding, if the character of the volva and bulb is not noticed. Fragments of the veil may be found on the young pileus.

5. AGARICUS VAGINATUS *Bull.*

Pileus thin, sulcate-striate on the margin, at first ovate campanulate, then expanded, smooth; lamellæ white, free, rather broad and rounded at the outer extremity; stipe whitish, slightly tapering upward, minutely squamulose or

mealy, hollow or loosely stuffed with cottony fibres, not annulate, sheathed at the base with the persistent volva.

Height 3′–6′ breadth of the pileus 1′–4′.

Common in woods. August.

The color of the pileus is various, but commonly a livid or grayish-brown. I have seen the white variety, *A. nivalis* Grev., on sterile grassy banks in Keene, Essex county. Patches of the torn volva may be seen on the young pileus.

6. AGARICUS CECILIÆ *B. & Br.*

Pileus sulcate-striate on the margin, grayish-brown, warty, at first ovate and slightly viscid, then broadly convex, expanded or even slightly depressed; lamellæ broad, white, free; stipe white, slightly tapering upward, minutely squamulose, hollow or stuffed with cottony fibres, not annulate; the volva soon disappearing.

Height 4′–6′, breadth of pileus 2′–3′.

Grassy borders of a grove at Greenport. July.

This species is closely related to the preceding one, but easily separated by the warty pileus and evanescent basal portion of the volva. I do not find the stem more densely stuffed than it is in *A. vaginatus*.

7. AGARICUS FARINOSUS *Schw.*

Pileus sulcate-striate on the margin, livid-brown, pulverulent coated; lamellæ whitish, free; stipe pallid, cylindrical, becoming hollow, farinaceous, subbulbous, not annulate; volva evanescent or none.

Height 2′, breadth of the pileus 1′–2′.

In open woods. Greenbush. July.

The powdery or dust-like coating of the pileus is more abundant on the disk, where it is collected in heaps or patches capable of being rubbed off. The plant might easily be mistaken for a species of *Russula*.

Subgenus—Lepiota.

Veil universal, concrete with the cuticle of the pileus. Hymenophorum distinct from the stem.—*Berk. Outl.*

The species of this subgenus are generally smaller than those of the preceding, and the most of them have the pileus rough with tufts or scales formed by the breaking up of the cuticle with the concrete veil. This frequently gives them a beautiful variegated appearance.

SYNOPSIS OF THE SPECIES.

Pileus scaly..... a.
a. Annulus movable..... 8.
a. Annulus not movable..... b.

b. Scales acute, erect..... 9.
b. Scales appressed..... c.
c. Stipe with an elongated bulbous base..... 10.
c. Stipe not bulbous, floccose..... 11.
c. Stipe not bulbous, smooth..... 12.
Pileus smooth, annulus large..... 13.
Pileus granulose, annulus small..... 14.

*8. AGARICUS PROCERUS *Scop.*

Pileus at first ovate, then broadly convex or expanded, strongly umbonate,† spotted with broad brownish scales, the margin deflexed, fibrillose; lamellæ remote, whitish or flesh colored; stipe long, cylindrical, hollow, bulbous, squamulose, annulate with a firm movable ring.

Height 6′–10′, breadth of pileus 3′–5′.

Fields, pastures and roadsides. Utica. *A. S. Johnson.* West Albany. Aug.–Sept.

An edible species of a dingy whitish color.

9. AGARICUS ACUTESQUAMOSUS *Weinm.*

Pileus convex, obtuse or very broadly subumbonate, rough with small erect acute scales which are more numerous on the disk; lamellæ narrow, free, yellowish; stipe equal, annulate, bulbous; annulus whitish, not movable.

Height 3′–4′, breadth of the pileus 2′–3′.

In a grapery at Buffalo. *G. W. Clinton.* November.

The pileus is tawny on the disk, elsewhere whitish, with subconcentrically-arranged tawny scales.

*10. AGARICUS AMERICANUS *n. sp.*

Pileus convex, distinctly umbonate, squamose, with the margin obscurely striate; lamellæ free; stipe slender, smooth, annulate, stuffed or hollow, gradually enlarged below into a long subventricose bulb-like base; annulus thin, subpersistent, fixed.

Height 3′–5′, breadth of pileus 1.5′–3′ or more.

Grassy ground by roadsides. August. Buffalo. *G. W. Clinton.*

The whole plant in drying becomes of a dull pinkish-red color. This plant was noticed in a previous report as *A. rachodes*, but upon further investigation I am satisfied it is a species distinct by its umbonate, not depressed pileus, substriate margin, fixed annulus, and peculiar elongated bulbous base.

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* Species marked with the asterisk have been before reported, but are repeated for the sake of the description.

† Having an abrupt obtuse elevation or boss in the center.

11. AGARICUS CLYPEOLARIUS *Bull.*

Pileus subcampanulate or convex, umbonate, at first uniformly brownish-coated, then whitish, thickly set with small brownish scales, the margin sometimes obscurely striate; lamellæ white, free; stipe slender, hollow, floccose-scaly below the slight evanescent annulus.

Height 2′-3′, breadth of pileus .5′-1.5′.

In woods. North Elba. August.

Some specimens are much darker colored than others. The cuticle does not break up on the disk, which in consequence remains brown. The plant has a pleasant odor, even after it has been kept a long time in the herbarium.

*12. AGARICUS CRISTATUS *Fr.*

Pileus convex, at first reddish-brown then, from the breaking up of the cuticle, whitish, spotted with reddish-brown scales, which are larger and closer toward the disk where the cuticle is unbroken; lamellæ white, free; stipe slender, smooth, hollow, slightly bulbous, annulate; annulus at length disappearing.

Height about 2′, breadth of pileus 1′-1.5′.

Ground along the borders of woods. Guilderland. July.

This plant has a strong odor, by which, with its smooth stipe, it is best distinguished from the preceding one.

13. AGARICUS NAUCINUS *Fr.*

Pileus at first subglobose, then convex, fleshy, soft, even, smooth, white; lamellæ close, narrower toward the inner extremity, white, then dirty flesh-colored, free; stipe white, smooth, equal, stuffed, bulbous, annulate, with a rather large white ring.

Height 2′-3′, breadth of pileus 1′-3′.

Grassy places in pastures. Knowersville. September and October.

I have seen no specimens with the cuticle broken up into granules. Without observing the color of the spores, this plant might be taken for a species of *Psalliota*, especially since the lamellæ assume a brownish hue in drying.

14. AGARICUS GRANULOSUS *Batsch.*

Pileus thin, convex or subcampanulate, often umbonate, sometimes corrugated (radiately wrinkled), granulose; lamellæ white, reaching the stem, sometimes attached to it, sometimes free; stipe slender, stuffed or hollow, floccose-squamulose below the evanescent ring.

Height 1.5′-3′, breadth of pileus about 1′.

In woods and open places. August. October. Common. A variable species. Var. *Carcharius* Pers. has the pileus white and the granules darker, or almost black. Catskill Mountains.

Var. *amianthinus* Scop. has the pileus generally umbonate, with the margin at first scalloped or crenate, and the stem elongated. In mossy places in woods. North Elba. The prevailing color of the pileus is a bright ochraceous yellow. The stem is generally colored like the pileus.

Subgenus—Armillaria.

Veil partial, annular. Hymenophoram confluent with the stem.—*Berk. Outl.*

As yet we have found but a single species of this subgenus.

*16. AGARICUS MELLEUS *Vahl.*

Pileus fleshy, expanded, sprinkled with minute, erect, hair-like scales, dull honey color; lamellæ rather broad, whitish, slightly sinuate at the inner extremity and subdecurrent; stipe nearly equal, whitish, fibrous, rarely squamose, solid, annulate.

Height 3′-6′, breadth of pileus 1′-4′.

Ground in woods and in pastures. August–October. Common.

A variable species, deemed edible, but having an acrid nauseous taste when raw.

A large solitary form, of a darker color, and with the margin striate when moist, occurs in woods; a cæspitose form grows in cleared land about the roots of stumps; and a smaller more yellow form is gregarious in grassy places.

Subgenus—Tricholoma.

Stem fleshy; gills with a sinus behind. Veil obsolete, or, if present, floccose, and adhering to the margin of the pileus. —*Berk. Outl.*

The species of this subgenus are mostly easily recognizable by their stout fleshy appearance and emarginate lamellæ. The pileus may be viscid, moist, or dry and scaly. Nearly all the species grow on the ground. The stem is never annulate.

SYNOPSIS OF THE SPECIES.

Pileus dry, scaly ..... a.
a. Pileus with a purplish-red tomentum ..... 17.
a. Pileus dull rufous-brown ..... 18.
a. Pileus dark livid-brown, bluish tinged ..... 19.
Pileus moist, smooth ..... b
b. Pileus subviolaceous ..... 20.
b. Pileus white. ..... 21.

17. AGARICUS VARIEGATUS *Scop.*

Pileus fleshy, convex, at length expanded or slightly depressed, variegated with a red squamulose tomentum; lamellæ narrow, close, pale yellow or whitish; stipe equal, stuffed, tomentose like the pileus.

Height 2′, breadth of pileus 2′, diameter of stipe 3″-6‴.

About the roots of old stumps. Albany and Sandlake. June.

The flesh of the pileus is whitish, inclining to yellow. The color of the tomentum varies in intensity. It is usually paler, as well as less dense, on the stem than on the pileus.

18. AGARICUS VACCINUS *Pers.*

Pileus fleshy, rather thin, except the disk, at first ovate-convex, then subcampanulate or expanded, generally broadly umbonate, dull reddish-brown with innate blackish fibres or scales, generally rough squamose from the breaking up of the cuticle; lamellæ whitish, at length becoming spotted and margined with dull rufous, close or subdistant, slightly or deeply emarginate; stipe concolorous with the pileus, whitish and pruinose at the top, fibrous-scaly, equal or subventricose, stuffed or hollow.

Height 2′-3′, breadth of pileus 2′-3′, diameter of stipe 4″-6″.

Ground under balsam trees in pastures. Catskill Mountains. October.

A very variable species, not agreeing rigidly with the description of *A. vaccinus*, but I am unwilling to found a new species on the slight differences exhibited by so variable a plant. Two principal forms are noticeable; one, with the pileus smooth, expanded, not umbonate, the margin smooth, marked at little intervals with slight, short, polished elevations, and the lamellæ close; the other, with the pileus convex-campanulate broadly umbonate, rimose-squamose, the margin when young slightly tomentose, and the lamellæ subdistant, often wavy and marked with little transverse lines. The latter form is the more common one. The color inclines to cinnamon-brown.

19. AGARICUS TERREUS *Schæff.*

Pileus fleshy on the disk, elsewhere rather thin, convex, then expanded, with a short broad umbo, densely squamulose, dark or livid-brown, the floccose scales blackish, often bluish tinged; lamellæ whitish, subdistant, thick, ventricose, deeply emarginate or subrounded at the inner extremity, with a slight decurrent tooth; stipe equal or slightly tapering

upward, firm, solid, fibrillose, slightly mealy-squamulose at the top, whitish or subconcolorous.

Height 1'-2', breadth of pileus 6"-18", diameter of stipe 2"-3". Under pine trees. Albany. October and November.

A gregarious plant, with a meal-like flavor. The margin of the pileus sometimes has a paler appearance than the rest, from the absence or diminished density of the squamulæ.

*20. AGARICUS PERSONATUS *Fr.*

Pileus thick, fleshy, convex, even, smooth, moist, pallid or cinereous, tinged with pale violet or lilac; lamellæ close, narrow, rounded at the inner extremity, narrowed outwardly, whitish, often tinged with pink or violet; stipe stout, solid, whitish or concolorous fibrillose, slightly thickened at the base.

Height 2'-4', breadth of pileus 2'-5', diameter of stipe 6" or more.

Open woods. West Albany and Catskill Mountains. October. Edible.

21. AGARICUS ALBOFLAVIDUS *n. sp.*

Pileus at first convex, with the margin incurved, then expanded or slightly depressed, moist, smooth, even, white, in exposed places becoming yellowish; lamellæ close, narrow, thin, emarginate and decurrent with a tooth; stipe whitish, equal, solid, striate-fibrillose, with a thin, tough cuticle.

Height 3'-4', breadth of pileus 2'-3', stipe about 3" thick.

Ground in woods and open fields. Sandlake and North Elba. August.

The pileus is sometimes slightly and broadly umbonate.

Subgenus—Clitocybe.

Stem elastic, with a fibrous outer coat; gills decurrent, or acutely adnate.—*Berk. Outl.*

The form of the pileus in this subgenus is commonly that of an inverted cone, or, from the depression of the center in the thin species, of a funnel. The lamellæ are decurrent or acutely attached to the stem, which is of a soft or spongy texture within, and destitute of an annulus. The veil, which is marginal and more or less perceptible in the preceding subgenus, in this is seldom noticeable.

25. AGARICUS ILLUDENS *Schw.*

Pileus fleshy, convex or expanded, smooth, generally with a small umbo; lamellæ not crowded, unequally decurrent, some of them branched, narrowed toward each end, the edge, in dry specimens, discolored; stem firm, solid, long, smooth, tapering at the base.

Height 5′-8′, breadth of pileus 4′-6′, stipe 6″-8″ thick.

Generally growing on rotten wood. Common.

The plant is of a bright saffron yellow color, and grows in dense clusters or tufts, so that the pileus is often irregular or excentric from its crowded mode of growth. The cuticle sometimes cracks in areas, and the color, when old, becomes brownish. The large bright-colored tufts form a conspicuous object, and catch the eye at a considerable distance.

27. AGARICUS ADIRONDACKENSIS *n. sp.*

Pileus thin, submembranaceous, funnel form, with the margin decurved, nearly smooth, hygrophanous, white, the disk often darker; lamellæ white, very narrow, scarcely broader than the thickness of the flesh of the pileus, crowded, long decurrent, subarcuate, some of them forked; stipe slender, subequal, not hollow, whitish, mycelio-thickened at the base.

Height 1′-3′, breadth of pileus 1′-2′, diameter of stipe 1″-2″.

Among leaves in woods. August.

I have seen this pretty species in the Adirondack region only. The lamellæ are sometimes tinged with yellow. The margin of the pileus is occasionally wavy.

28. AGARICUS POCULUM *n. sp.*

Closely related to the preceding, being of the same size and shape, but differing in being of a grayish-brown color, having the lamellæ less crowded, twice as broad, and darker colored.

Woods. North Elba and West Albany. August–October.

29. AGARICUS LACCATUS *Scop.*

Pileus thin, fleshy, convex, sometimes expanded, even or slightly umbilicate, smooth or minutely tomentose-scaly, hygrophanous, when moist, dull reddish-yellow or reddish-flesh-colored, sometimes striatulate; when dry, pallid or pale dull ochraceous; lamellæ broad, rather thick and distant, attached, not decurrent, flesh-colored; stipe slender, firm, fibrous, stuffed, equal, concolorous.

Height 1′-6′, breadth of pileus 6″-2′. Common.

June–October.

An extremely variable and abundant species occurri almost everywhere throughout the season.

30. AGARICUS BRUMALIS *Fr.*

Pileus thin, at first convex, then expanded or depress umbilicate, smooth, hygrophanous; lamellæ narrow, clo slightly decurrent; stipe slender, smooth, equal, hollow.

Height 1′-2′, breadth of the pileus 8″-18″, stipe 1″-2″ thick.

Pine woods. West Albany. October.

The plant is watery gray when moist, dull white when dr I do not find it deeply funnel form.

31. AGARICUS DITOPUS *Fr.*

Pileus thin, submembranaceous, convex, rarely with a sm umbo, smooth, hygrophanous, brown when young and mo grayish-white when dry; lamellæ grayish, close, thin, attache not decurrent; stipe slender, equal, smooth, hollow.

Height 1′-2′, breadth of pileus 6″-18″, stipe 1″-2″ thick

Pine woods. West Albany. October.

The plant has the odor and taste of new meal. I have s no specimens with the pileus depressed.

32. AGARICUS METACHROUS *Fr.*

Separated from the preceding by its thicker, depressed pile its thicker, less close lamellæ, and the absence of odor.

Pine woods. West Albany. October.

Subgenus — Collybia.

Stem cartilaginous externally. Margin of pileus at first in lute. Gills not decurrent.—*Berk. Outl.*

The pileus is generally convex or expanded, not obconic depressed, as in the preceding subgenus. The lamellæ re the stem, but are not decurrent, though sometimes emargin as in *Tricholoma*. The stipe is firm and cartilaginous, with any annulus.

SYNOPSIS OF THE SPECIES.

Stipe with a long tapering root.....
Stipe with no conspicuous root, nor with tubers.....
a. Stipe smooth, plant terrestrial.....
a. Stipe smooth, plant lignatile.....
a. Stipe not smooth, plant lignatile.....
b. Pileus viscid.....
b. Pileus not viscid.....
Stipe having small tubers at the base, pileus umbilicate.....
Stipe having small bay or brown tubers, pileus umbonate.....

*33. AGARICUS RADICATUS *Relh.*

Pileus thin, convex, then expanded, subumbonate, often radiately wrinkled, smooth, glutinous when moist, grayish brown; lamellæ white, subdistant, rather broad, emarginate, attached to the stipe; stipe long, firm, smooth, stuffed, slightly tapering upward, subconcolorous, having a root-like prolongation extending deep into the earth.

Height 4′-8′, breadth of pileus 2′-3′, stipe 2″-3″.

Woods and open places. Common. June–August. Edible.

34. AGARICUS DRYOPHILUS *Bull.*

Pileus fleshy, not thick, convex or expanded, rarely slightly depressed, smooth; lamellæ narrow, crowded, white, sometimes pale yellow, rounded or emarginate at the inner extremity, subfree; stipe equal, slender, smooth, hollow, concolorous, mostly mycelio-enlarged at the base.

Height 1′-2′, breadth of pileus 1′-1.5′, stipe 1″-2″ thick.

Very common in woods and pastures, growing among leaves and decaying vegetable matter. June–November.

*15. AGARICUS VELUTIPES *Curt.*

Pileus fleshy, thin on the margin, convex, sometimes irregular, smooth, very viscid, pale dull yellow with a brownish disk or bright reddish-yellow; lamellæ close, rounded behind, nearly or quite free, yellowish; stipe equal or slightly tapering upward, hollow or stuffed, generally velvety and brown, sometimes pale yellow and pruinose.

Plant cæspitose, 1′-2′ high, pileus 6″-15″ broad.

On stumps, trunks of trees, etc. April–October.

This plant was first found by me growing on a stump which had been cut close to the ground. Its pale pileus with a brownish disk, yellowish hollow stem with its pubescence scarcely perceptible, looking like a slight pruinosity, were all so unlike the characters assigned to *A. velutipes* in the description, that I was disposed to regard our plant as distinct. Further observation, however, convinces me that it is a mere variety, but one so marked that I have thought it worthy of illustration. (Piate 5, figs. 12–17.)

35. AGARICUS FAMILIA *n. sp.*

Pileus thin, hemispherical or convex, smooth, whitish, often tinged with yellow, the disk darker; lamellæ narrow, crowded, reaching the stem, rounded at the inner extremity, almost free; stipe slender, white, smooth, hollow; plant cæspitose.

Height 2′–3′, breadth of pileus 6″–12″, stipe 1″ thick.

Grows in dense tufts of individuals of various sizes, on old logs in woods. Adirondack Mountains. August.

The disk is clouded with brown. The plant becomes dark colored in drying.

36. AGARICUS STIPITARIUS *Fr.*

Pileus thin, submembranaceous, convex or expanded, umbilicate, minutely scaly; lamellæ rather broad, separating from the stem, white; stipe tough, hollow, hairy-fibrillose, slender.

Height 1′–2′, breadth of pileus 3″–6″.

On twigs, etc., under trees. Knowersville and Sandlake. July and August.

Sometimes a minute papilla is visible in the center of the umbilicus. In dry weather the pileus withers, appears thickly coated with tawny fibrous scales, and is sometimes constricted below the apex and a little striated or furrowed.

37. AGARICUS CIRRHATUS *Schum.*

Pileus thin, expanded, umbilicate or slightly depressed, white or grayish, with a faint reddish tinge; lamellæ very narrow, crowded, white, attached to the stem; stipe very slender, whitish, subflexuous, hollow, generally with little yellowish tubers at the base.

Height about 1′, breadth of pileus 1″–4″.

On decaying vegetable matter in woods and open places. Common. June–September.

38. AGARICUS TUBEROSUS *Bull.*

Closely related to the preceding, having the same size and color, but the pileus umbonate, and the tubers of a bay or brownish color. Poughkeepsie. *Gerard.* Knowersville. June.

Less common than the preceding. The last three species are easily preserved, and appear to be related to the *Marasmii.*

Subgenus—Mycena.

Stem externally cartilaginous. Margin of pileus (which is mostly campanulate) at first straight and pressed to the stem.—*Berk. Outl.*

The species are all small, slender, having the pileus thin, generally striate or striatulate, smooth, or only clothed with a few silky fibres, obtusely conical or bell-shaped. The lamellæ are seldom crowded, not strictly decurrent, but often uncinate and

attached, from which they appear subdecurrent. The stipe is smooth and hollow, often villous at the base, but not strictly bulbous. The species are subhygrophanous, with no veil, hence the stipe is never annulate.

SYNOPSIS OF THE SPECIES.

Plant neither viscid nor having a colored juice..... a.
a. Pileus brown (fuscous) or grayish-brown..... b.
b. Lamellæ uncinate, distinct..... c.
c. Pileus obtusely conical or bell-shaped..... 39.
c Pileus narrowly conical; stipe very long..... 40.
c. Pileus convex; stipe rather short..... 41.
b Lamellæ united at the stipe..... 42.
b Lamellæ not uncinate..... d.
d. Plant growing on peat moss (Sphagnum)..... 43.
d. Plant growing on trunks of trees..... 50.
a. Pileus purplish or lilac..... 44.
a. Pileus yellow; lamellæ yellow..... 45.
a. Pileus pallid, whitish, yellowish or flesh-colored; lamellæ flesh-colored.... 46.
Plant viscid; stipe yellow..... 47.
Plant viscid; stipe not yellow..... 48.
Plant not viscid; having a colored juice..... 49.

*39. AGARICUS GALERICULATUS *Scop.*

Pileus obtusely conical or bell-shaped, sometimes umbonate, long striate, variable in color, but some shade of brown or cinereous; lamellæ not crowded, uncinate, decurrent-toothed, abruptly pointed at the outer extremity, venose-connected, distinct at the stipe, white or flesh-colored; stipe firm, smooth, hollow, with white filaments at the base.

Height 2′–4′, breadth of pileus 6″–18″.

On old logs, decaying sticks, etc., in woods. Common. July–October. Sometimes cæspitose.

40. AGARICUS PRÆLONGUS *n. sp.*

Pileus at first subcylindrical, then narrowly conical, inclining to bell shape, striate, blackish-brown with a plumbeous or leaden tint; lamellæ narrow, white, uncinate and slightly decurrent-toothed; stipe very long, firm, smooth, hollow, paler than the pileus, generally tinged with red, villous at the base.

Height 5′–7′, breadth of pileus 4″–8″.

Sphagnous marshes. Sandlake. June. Gregarious.

The pileus, as in most of the species of a dark brown color, becomes paler in drying and the striæ disappear.

41. AGARICUS LATIFOLIUS *n. sp.*

Pileus convex, rarely somewhat umbonate, striatulate, grayish-brown; lamellæ white, broad, uncinate, decurrent-toothed;

stipe slender, smooth, hollow, subconcolorous, white-villous at the base.

Height 1'-1.5', breadth of pileus, 4"-6". Stipe .5" thick.

Under pine trees. Center. October.

A small species with quite broad lamellæ, growing among the fallen leaves of pine trees. Gregarious. (Plate 6, figures 8–14.)

42. AGARICUS COLLARIATUS *Fr.*

Pileus subcampanulate becoming convex, striatulate, brown, sometimes with a pinkish tinge; lamellæ numerous, uncinate, united at their inner extremity, whitish, sometimes with a flesh-color, sometimes with a yellowish tinge; stipe slender, rather firm, hollow, smooth, subconcolorous, villous at the base.

Height about 2', breadth of pileus 5"-10".

Old stumps and rotten logs in woods. Sandlake. June.

This species is distinguished from *A. galericulatus* by the lamellæ being united with each other at the stipe as if in a collar, and in not being venose-connected.

43. AGARICUS PALUSTER *n. sp.*

Pileus convex, becoming expanded, umbonate, striatulate, grayish-brown; lamellæ not uncinate, rather broad, subventricose, nearly free, sordid white; stipe slender, smooth, hollow, equal or slightly narrowed upward, villous at the base, pallid.

Height 3'-4', breadth of pileus 5"-9".

Growing on Sphagnum in cranberry marshes. Sandlake. June.

I have found this plant in but one locality. It is quite distinct from all other *Mycenæ* known to me, by its broadly convex or expanded umbonate pileus. The umbo is small and subacute. The pileus becomes of a whitish-gray color in drying, and appears to be covered with numerous whitish fibrils. The lamellæ reach the stem, but are slightly attached to it and easily separated from it. (Plate 5, figs. 6–11.)

44. AGARICUS PURUS *Pers.*

Pileus convex, smooth, striatulate, pinkish-purple or lilac; lamellæ rather broad, sometimes rounded, sometimes sinuated at the inner extremity, connected by numerous veins, colored like the pileus; stipe firm, smooth, hollow, concolorous; plant odorous.

Height about 2', breadth of pileus 6"–12".

Pine woods. West Albany and Sandlake. October.

The plant has the odor of radishes. It becomes paler in drying. I have seen no umbonate specimens.

45. AGARICUS PULCHERRIMUS *n. sp.*

Pileus subcampanulate or convex, rarely subumbonate, striatulate, dull yellow, the disk a little darker; lamellæ broad, subventricose, attached to the stem, not uncinate, yellowish; stipe slender, hollow, concolorous, white, villous at the base; plant gregarious.

Height 1′–1.5′, breadth of pileus 3″–5″.

Under pine trees. Center. October.

Related to *A. acicula*, but that has a smaller scarlet-colored pileus.

46. AGARICUS SUBINCARNATUS *n. sp.*

Pileus hemispherical, convex or expanded, striatulate, of a pale yellow or flesh-colored hue, becoming whitish; lamellæ subincarnate, uncinate, decurrent-toothed; stipe slender, hollow, white-villous at the base; plant gregarious.

Height 1′-1.5′, breadth of pileus 3″-6″.

Under pine trees. Center and Sandlake. October.

Near the preceding, but at once distinguished by the color of the pileus and the form and color of the lamellæ. The latter are sometimes nearly white, but tinged with flesh-color.

*47. AGARICUS EPIPTERYGIUS *Scop.*

Pileus bell-shaped or hemispherical, sometimes convex, striate, viscid, grayish-yellow, the disk brownish; lamellæ white or yellowish, sharply uncinate and decurrent-toothed; stipe yellow, shining, viscid, white-villous at the base.

Height 1′–2′, breadth of pileus 2″–5″.

Not rare. In woods and groves, especially of pine. October.

48. AGARICUS VULGARIS *Pers.*

Pileus convex or expanded, substriate, viscid, cinereous or brown; lamellæ uncinate, decurrent-toothed, white; stipe firm, hollow, viscid, grayish.

Height 1′, breadth of pileus 2″–5″.

Common in pine woods. July–October.

The pileus is described as having a small umbo or papilla. I have seen no such specimens. On the other hand, it is occasionally slightly umbilicate.

49. AGARICUS SANGUINOLENTUS *A. & S.*

Pileus subcampanulate, umbonate, striatulate, brownish,

with a dark reddish tinge; lamellæ uncinate, decurrent toothed, white, tinged with pink, the edge dark vinous-red; stipe very slender, paler than the pileus, villous at the base, containing a reddish juice.

Height 1′–1.5′, breadth of pileus 3″–4″.

At the mossy base of trees. Greenbush. June.

All my specimens have the pileus umbonate, and were cæspitose, in which particulars they do not agree with published descriptions; still, I am unwilling to make a new species on such slight differences.

50. AGARICUS CORTICOLA *Schum.*

Pileus hemispherical or convex, subumbilicate, striate, brown, sometimes with a purplish tint, and sometimes having a grayish mealy appearance; lamellæ few, distant, subdecurrent, and broadly attached to the stipe; stipe short, curved, stuffed or hollow, subconcolorous.

About 6″ high, pileus 2″–3″ broad.

Among moss and lichens, on trunks of elm trees. Albany. September.

Subgenus — Omphalia.

Stem cartilaginous. Gills truly decurrent.—*Berk. Outl.*

The species of this subgenus are closely related to those of the preceding one, from which they differ chiefly in the decurrent lamellæ, which, though sometimes arcuate, are scarcely uncinate. The pileus is often umbilicate.

SYNOPSIS OF THE SPECIES.

Pileus, or stem, minutely scaly ..... a.
a. Pileus not yellow ..... 51.
a. Pileus yellow; stem smooth ..... 52.
a. Pileus yellow; stem scaly ..... 53.
Pileus smooth ..... b.
b. Stem pale yellow, short ..... 54.
b. Stem brown ..... 55.
b. Stem orange, very long ..... 56.

51. AGARICUS OCULUS *n. sp.*

Pileus thin, convex, umbilicate, generally with a small umbo or papilla in the umbilicus, minutely squamulose, dingy white, the umbilicus blackish-brown; lamellæ white, narrow, close, subarcuate; stipe whitish, minutely squamulose or furfuraceous, hollow, often curved, easily splitting.

Height 1′–2′, breadth of pileus 6″–12″, stipe 1″ thick.

On prostrate trunks in woods. Adirondack Mountains. August.

The dark colored disk is a prominent feature.

52. AGARICUS CHRYSEUS *n. sp.*

Pileus thin, convex, at length plane or slightly depressed, umbilicate, striatulate, minutely squamulose; lamellæ not crowded, rather narrow, yellow; stipe nearly smooth, stuffed or hollow, sometimes curved.

Height 1′-1.5′, breadth of pileus 8″-12″, stipe 1″ thick.

Old logs in woods. Adirondack Mountains. August.

The whole plant is yellow.

53. AGARICUS SCABRIUSCULUS *n. sp.*

Pileus thin, broadly convex or expanded, striate, yellow; lamellæ distant, broad, subtriangular, connected by numerous veins, white or pale yellow; stipe firm, yellow, minutely squamulose, stuffed or solid.

Height 1.5′-2′, breadth of pileus 6″-12″.

Mossy prostrate trunks in woods. Adirondack Mts. August.

A firm species, quite distinct from the preceding one. The numerous connecting veins between the lamellæ give a wrinkled appearance to the striated margin of the pileus.

54. AGARICUS UMBELLIFERUS *L.*

Pileus thin, fleshy on the disk, convex or expanded, obconic, subumbilicate, striate, pale yellow; lamellæ broad, distant, white, subtriangular; stipe smooth, solid, often curved, concolorous.

Height 1′, breadth of pileus 6″-8″.

Mossy places in swamps, and in vegetable mold on the top of high mountains. North Elba and Mts. Marcy and Whiteface. August.

A fragile species, soon decaying when collected. The color is said to be variable.

*55. AGARICUS CAMPANELLA *Batsch.*

Pileus thin, convex, umbilicate, smooth, striatulate, hygrophanous, dull reddish-yellow; lamellæ narrow, yellowish, venose-connected, arcuate; stipe slender, firm, hollow, often curved, brown, a little paler at the top, tawny-villous at the base.

Height 1′-1.5′, breadth of pileus 4″-12″.

On rotten logs and stumps in woods and open places. May–October. Very common.

56. AGARICUS FIBULA *Bull.*

Pileus thin, convex, umbilicate, smooth, yellow or pale orange, striatulate; lamellæ narrow, arcuate, long decurrent, whitish; stipe elongated, slender, smooth, hollow, concolorous.

Height 1′-2′, breadth of pileus 1″-3″.

On mossy ground in fields and groves. June–October. Common.

The pileus becomes brighter colored in drying.

Subgenus—Pleurotus.

Stem eccentric, lateral or wanting. Mostly growing on wood.—*Berk. Outl.*

In this subgenus the pileus is either destitute of a stem or has it attached to the margin or to some point outside of the center. The texture is more firm, the plant of slower growth and longer duration than in any of the preceding subgenera.

SYNOPSIS OF THE SPECIES.

Stipe distinct, eccentric ..... 58.
Stipe very short, lateral ..... 59.

58. AGARICUS SULFUREOIDES *n. sp.*

Pileus rather thin, fleshy, convex, umbonate, subsquamulose or smooth, sulphur-yellow; lamellæ moderately close, rather broad, rounded or slightly emarginate at the inner extremity, easily separating from the stipe, pale yellow; stipe firm, equal, slightly fibrillose, stuffed or hollow, generally curved and eccentric, rarely central, a little mealy-tomentose at the top.

Height 1′-1.5′, breadth of pileus 1′-2′, stipe 2″-3″ thick.

On old logs in woods. Catskill Mountains. October.

The pileus becomes paler in drying. The minute scales are brown, but often wanting. It resembles *A. sulfureus*, but from its firm texture and eccentric stipe it must be placed with the *Pleuroti*.

59. AGARICUS SEROTINOIDES *n. sp.*

Pileus fleshy, thick, firm, convex above, minutely punctate-tomentose, slightly viscid when young or moist, the margin usually incurved; lamellæ close, determinately ceasing, some of them forked, white or yellowish; stipe lateral, short, thick, scarcely distinct when viewed from above, yellow and tomentose beneath.

Plant cæspitose-imbricating or solitary, 1'-3' broad. Trunks of deciduous trees in woods. Common. October and November.

The color of the pileus is a peculiar grayish-brown, variously modified with yellow and greenish or olivaceous hues. The edge of the lamellæ is sometimes discolored and slightly floccose.

Series 2—HYPORHODII.

Spores salmon-colored.

Subgenus—Pluteus.

Hymenophorum distinct from the stem. Veil none.—*Berk. Outl.*

In this subgenus the lamellæ are generally free, and at length flesh-colored, the pileus convex and the stem solid.

SYNOPSIS OF THE SPECIES.

Pileus brown; lamellæ narrower toward the stipe..... 60.
Pileus brown; lamellæ broader toward the stipe..... 61.
Pileus not brown, more or less yellow..... 62.

60. AGARICUS CERVINUS *Schæff.*

Pileus fleshy, at first campanulate, then expanded, fibrillose, grayish-brown, sometimes splitting into cracks or chinks; lamellæ moderately distant, rather broad, a little narrowed toward the stipe, free, white, changing to flesh-color; stipe equal or slightly tapering upward, firm, solid, striated-fibrous, blackish-brown or whitish.

Height 3'-6', breadth of pileus 2'-4', stipe 3''-6'' thick.

On or about old stumps in open places, groves and borders of woods. Common. May-October.

Sometimes the stipe is nearly smooth and white, at others it is quite dark and fibrous or scaly.

61. AGARICUS NANUS *Pers.*

Pileus convex, rather thin, fibrillose or somewhat mealy, brown; lamellæ rather broad, a little narrower outwardly, white, becoming pale flesh-color, free; stipe white, firm, striate, solid.

Height 1'-2', breadth of pileus about 1'.

On decaying wood in groves. West Albany. October.

62. AGARICUS LEONINUS *Schæff.*

Pileus thin, submembranaceous, convex, becoming expanded, smooth, subhygrophanous, striatulate on the margin; lamellæ rather broad, free, at length flesh-colored; stipe white, solid, firm, slightly striate, equal.

Height 2′, breadth of pileus 1′-2′. Woods. North Elba. August.

The color of the pileus in our specimens was a pale watery cinnamon, changing to yellow.

Subgenus—Entoloma.

Hymenophorum continuous with the fleshy or fibrous stem; gills sinuato-adnexed, or parting from the stem.—*Berk. Outl.*

SYNOPSIS OF THE SPECIES.

Pileus umbonate.....63.
Pileus not umbonate.....64.

63. AGARICUS STRICTIOR *n. sp.*

Pileus thin, submembranaceous, broadly convex or expanded, umbonate, smooth, shining, hygrophanous, striatulate, grayish-brown; lamellæ rather broad, rounded or deeply emarginate at the stipe, pale flesh-colored; stipe straight, equal or very slightly tapering upward, nearly smooth, hollow, with a dense white mycelium at the base.

Height 2′-4′, breadth of pileus 1′-2′, stipe 1″-2″ thick.

Ground in groves and their borders. Albany. October.

The umbo is small but distinct, the stipe is quite straight, and the aspect of the whole plant is beautifully regular and symmetrical. It differs from *A. Elodes* in being hygrophanous, destitute of odor, etc. (Plate 2, figures 6–9.)

64. AGARICUS RHODOPOLIUS *Fr.*

Pileus thin, campanulate or convex becoming expanded, scarcely umbonate, grayish-brown, hygrophanous, the margin wavy; lamellæ attached, slightly emarginate, whitish, becoming flesh-colored; stipe white, silky, pruinose above, hollow.

Height 3′–4′, breadth of pileus 2′–3′. North Elba. September.

Subgenus—Clitopilus.

Hymenophorum confluent with the fleshy or fibrous stem; gills decurrent.—*Berk. Outl.*

The decurrent gills enable the species of this subgenus to be readily known.

SYNOPSIS OF THE SPECIES.

Plant large, subcæspitose.....65.
Plant small, gregarious.....66.

65. AGARICUS PRUNULUS *Scop.*

Pileus fleshy, firm, convex, then expanded or slightly depressed, often irregular or wavy, whitish or cinereous;

lamellæ rather narrow and close, tapering toward each end decurrent, whitish, becoming tinged with flesh-color; stipe short, subequal, solid, concolorous, often eccentric.

Height 2′–3′, breadth of pileus 2′–4′, stipe 3″–6″ thick.

Ground in groves and open places. Often cæspitose. Albany and Catskill. October. Edible.

66. AGARICUS NOVEBORACENSIS *n. sp.*

Pileus fleshy, thin, convex, then expanded or slightly depressed, with the margin decurved, dingy white, the surface cracking into areas or concentrically rivulose, sometimes obscurely zonate; lamellæ close, narrow, long-decurrent, some of them forked, white, at length dingy, tinged with yellow or flesh-color; stipe concolorous with the pileus, equal, solid, smooth, with white mycelium and brittle branching white rootlets.

Height 1′–2′, breadth of pileus 1′–2′, stipe 1″–2″ thick.

In woods and pastures. North Elba and Albany. August–October.

Gregarious or subcæspitose. Odor of new meal; taste very bitter; spores globose, pale flesh-colored.

Subgenus—Leptonia.

Stem with a cartilaginous bark. Margin of pileus at first incurved; gills separating from the stem.—*Berk. Outl.*

67. AGARICUS SERRULATUS *Pers.*

Pileus thin, submembranaceous, convex, umbilicate, squamulose or streaked with dark fibrils, color various, grayish-brown, cinereous, etc.; lamellæ not crowded, attached to but easily separating from the stem, pale flesh-colored, the edge blackish and serrulate; stipe equal, smooth, hollow, mostly a little paler than the pileus.

Height 1′–1.5′, breadth of pileus 6 –12″.

Banks by the roadside. North Elba. September.

Easily known by the dark-colored serrulate edge of the lamellæ.

Series 3—DERMINI.

Spores ferruginous, sometimes tawny or brownish.

The spores in this series are not as uniform in color as in the foregoing ones. They must be carefully observed in connection with the veil and other parts, that the species be not confused with those of the genus *Cortinarius*.

Subgenus—Pholiota.

Stem furnished with a ring.—*Berk. Outl.*

SYNOPSIS OF THE SPECIES.

Pileus scaly 6
Pileus smooth 8

68. AGARICUS ADIPOSUS *Fr.*

Pileus fleshy, firm, conical, then convex or expanded, glutinous when moist, squamose, with dark or reddish scales, the margin slightly surpassing the gills, yellow; lamellæ broad, attached, yellow, at length ferruginous; stipe firm, solid or stuffed, slightly enlarged at the base, scaly below the slight fugacious annulus, with a slight floccose collar at the top, yellow.

Height 3'–4', breadth of pileus 2'–3', stipe 4''–6'' thick.

Base of trees. Greenbush. November. Poughkeepsie. *Gerard.* The plant is cæspitose.

69. AGARICUS TEMNOPHYLLUS *n. sp.*

Pileus fleshy, hemispherical, then convex, smooth, dull yellow; lamellæ very broad, attached, obliquely truncate at the inner extremity, brownish-ferruginous; stipe equal, smooth, white, hollow, annulate; the annulus membranaceous, white, dusted with the brownish-ferruginous spores.

Height 2'–4', breadth of pileus 1.5'–2', stipe 3''–4'' thick.

Grassy ground by roadside. Sandlake. June.

This species resembles *A. semiorbicularis* so closely in color, taste, etc., that in the absence of the annulus it might be taken for a large form of that species.

Subgenus—Flammula.

Stem fleshy; gills adnate or decurrent.—*Berk. Outl.*

SYNOPSIS OF THE SPECIES.

Stem hollow 9
Stem solid 10

70. AGARICUS HALLIANUS *n. sp.*

Pileus thin, hemispherical or convex, smooth, hygrophanous, watery cinnamon with the margin obscurely striatulate when moist, dull yellow when dry; lamellæ close, subarcuate, slightly decurrent, tapering to a narrow point at the outer extremity and ceasing before the margin, cinnamon color; stipe equal, slightly fibrillose, hollow, with a slight annulus, reddish-brown.

Height 2'–3', breadth of pileus 1'–2', stipe 2''–3'' thick.

Pastures. Bethlehem. November.

Taste a little bitter. The annulus is very thin, membranaceous and stained with the spores.

Dedicated to Professor James Hall, a most earnest promoter and eminent patron of the natural sciences.

*71. AGARICUS POLYCHROUS *Berk.*

Pileus fleshy, convex, smooth, viscid, yellow, the disk reddish or brownish, the margin sometimes wavy; lamellæ close, emarginate and decurrent-toothed, yellow, then ferruginous; stipe firm, solid, equal, often curved, yellow; plant gregarious or cæspitose.

Height 1′-2′, breadth of pileus 9″-18″.

Ground and rotten wood in pastures and woods. Very common. August–November.

The veil is webby, fugacious.

Subgenus—Naucoria.

Stem cartilaginous externally; margin more or less convex; pileus inflexed.—*Berk. Outl.*

The spores are ferruginous, or brownish-ferruginous. The color of the pileus is some shade of yellow. The stipe is not distinctly annulate, but sometimes a slight spore-stained band marks the place of the obsolete annulus.

SYNOPSIS OF THE SPECIES.

Pileus umbonate..... a.
a. Stem hollow, tapering toward the base..... 72.
a. Stem hollow, equal..... 73.
a. Stem solid..... 74.
Pileus not umbonate..... b.
b. Stem hollow..... c.
c. Pileus hygrophanous..... 75.
c. Pileus not hygrophanous..... 76.
b. Stem solid or stuffed..... d.
d. Stem solid, margin of pileus recurved..... 77.
d. Stem containing a pith..... 78.

72. AGARICUS VERNALIS *n. sp.*

Pileus thin, fleshy, convex, then a little depressed, with a deflexed margin, umbonate, hygrophanous, dull yellow, darker when moist; lamellæ narrow, attached, cinnamon-color; stipe long, flexuous, striate-sulcate, hollow, tapering downward, white-villous at the base, brownish.

Height 2′, breadth of pileus 8″-12″, stipe 1″ thick.

On rotten wood. Greenbush. May.

73. AGARICUS LIGNICOLA *n. sp.*

Pileus thin, convex, umbonate, smooth or slightly fibrillose, hygrophanous, watery cinnamon and the margin striatulate

when moist, dull yellow when dry; lamellæ narrow, close, attached, cinnamon-color; stipe slender, equal, hollow, slightly fibrillose, firm, mostly curved, reddish-brown.

Height 1′–2′, breadth of pileus 6″–12″.

On old logs in woods. Sandlake. June.

74. AGARICUS FULVUS *n. sp.*

Pileus thin, convex, then expanded, umbonate, tawny yellow, darker when moist; lamellæ broad, emarginate, decurrent-toothed, cinnamon-colored; stipe equal, solid, subflexuous, a little paler than the pileus.

Height 1′–1.5′, breadth of pileus 4″–8″.

Ground in pine woods. Bethlehem. November.

75. AGARICUS AUTUMNALIS *n. sp.*

Pileus thin, fleshy, convex, smooth, hygrophanous, watery cinnamon and marginally striatulate when moist, dull yellow when dry; lamellæ close, slightly emarginate, spuriously decurrent-toothed, easily separating from the stipe, yellowish, then cinnamon-color; stipe slender, equal, hollow, fibrillose, paler than the pileus; plant often cæspitose.

Height 1′–2′, breadth of pileus 6″–12″

On rotten wood in woods. North Greenbush. November. Sometimes a trace of an annulus may be seen on the stem. The taste resembles that of *A. semiorbicularis*.

76. AGARICUS SCORPIOIDES *Fr.*

Pileus fleshy, thin, short conic, obtuse or subumbonate, smooth, reddish-yellow, the margin incurved and paler, lamellæ attached, pale yellow, becoming darker with age; stipe long, slender, equal, wavy, silky, white or yellowish, hollow.

Height 3′–5′, breadth of pileus 5″–8″.

Among moss in woods. North Elba. August.

77. AGARICUS CURVO-MARGINATUS *n. sp.*

Pileus thin, convex, smooth, reddish-yellow, the margin paler, reflexed, extending beyond the lamellæ; lamellæ subventricose, emarginate, decurrent-toothed, pale yellow or whitish, with a flesh-colored tinge; stipe equal, solid, wavy with a whitish silky luster.

Height 2′–3′, breadth of pileus 4″–6″.

In mossy places in woods. North Elba. August.

This and the preceding have a darker color when moist, but they are scarcely hygrophanous. The solid stem and up

curved margin separate this from the preceding species. (Plate 2, figures 1–5.)

78. AGARICUS SEMIORBICULARIS *Bull.*

Pileus thin, fleshy, hemispherical, at length expanded, smooth, subviscid, dull yellow; lamellæ close, broad, attached, at length dark ferruginous; stipe slender, equal, firm, stuffed with a distinct whitish pith, yellowish.

Height 1′–2′, breadth of pileus 6″–12″.

Fields and manured grounds. West Albany. June.

It is sometimes cæspitose. The pileus sometimes cracks into areas. It has an oily flavor, resembling that of beech nuts.

Subgenus — Galera.

Stem externally subcartilaginous; pileus more or less campanulate; margin straight. — *Berk. Outl.*

The spores are generally bright ferruginous. The pileus is thin, obtusely conical or bell-shaped, and the stem is hollow, rather long and slender, so that in aspect the species correspond to those of the subgenus *Mycena* in the first series. All of our species, so far as known, are hygrophanous.

SYNOPSIS OF THE SPECIES.

Pileus at length expanded ..... a.
a. Plant growing in fields or on dung; pileus not umbonate ..... 79.
a. Plant growing in marshes; pileus generally umbonate ..... 82.
Pileus not expanded ..... b.
b. Plant growing in fields or groves ..... c.
c. Pileus dark ferruginous ..... 80.
c. Pileus pale yellow ..... 81.
b. Plant growing in woods among moss ..... 83.

79. AGARICUS LATERITIUS *Fr.*

Pileus thin, submembranaceous, fragile, conical, at length expanded, closely and finely striate on the margin, grayish-yellow, darker when moist; lamellæ close, narrow, nearly or quite free, yellow-ferruginous; stipe long, white, fragile, easily splitting, pruinose or farinaceous above, slightly tapering upward.

Height 3′–4′, breadth of pileus, 1′–2′.

On dung heaps. West Albany. June.

Sometimes there is a slight pinkish tinge to the pileus and stem.

80. AGARICUS OVALIS *Fr.*

Pileus thin, submembranaceous, conical or bell-shaped, obtuse, smooth, brownish-ferruginous and obscurely striatulate when moist, dark ferruginous when dry; lamellæ broad, subventricose, nearly free, ferruginous; stipe slender, nearly straight, slightly striate, subconcolorous.

Height 3′–4′, breadth of the pileus 6″–12″.

In a pine grove. West Albany. June.

This is *A. campanulatus* Bull, in the Epicrisis of Fries, p. 205. The cuticle of the pileus sometimes cracks and scales off in irregular patches.

81. AGARICUS TENER *Schæff.*

Pileus submembranaceous, oval or obtusely conical, sometimes campanulate, smooth, watery, tawny and striatulate when moist, yellowish-white when dry; lamellæ close, quite broad, slightly attached, cinnamon-color; stipe slender, smooth, colored like the pileus.

Height 2′–3′, breadth of pileus 4″–8″.

On dung, manured ground and in rich pastures. West Albany and North Elba. June–October.

*82. AGARICUS SPHAGNORUM *Pers.*

Pileus thin, fleshy, fragile, broadly conical or convex, then expanded, generally with a small umbo, striatulate on the margin, pale watery cinnamon, becoming ochraceous-yellow when dry; lamellæ broad, attached, dull cinnamon-color; stipe long, fragile, flexuous or straight, subconcolorous, silky fibrillose, whitish-villous at the base.

Height 4′–6′, breadth of pileus 6″–12″.

In peat marshes, among Sphagnum. Sandlake. June–September.

Fries considers this a variety of the next species. It appears to me to be quite distinct.

83. AGARICUS HYPNORUM *Batsch.*

Pileus submembranaceous, obtusely conical, hemispherical or convex, with or without a small papilla at the apex, ferruginous-yellow and marginally striatulate when moist, yellow and substriate when dry; lamellæ broad, attached, pale cinnamon-color; stipe long, slender, subconcolorous.

Height 2′–4′, breadth of pileus 3″–5″.

Mossy places in woods. North Elba. August.

Subgenus—Hebeloma.

Veil, if present, floccose, not interwoven; stem fleshy; gills sinuated.—*Berk. Outl.*

The pileus is thin, but fleshy, generally fibrillose or scaly; the gills are most often of a dingy or olivaceous color, and emarginate; the stipe is fleshy, more or less fibrous, and, in our species, solid or stuffed. The color of the spores is generally olivaceous, or brownish-ochraceous.

SYNOPSIS OF THE SPECIES.

Pileus splitting and cracking into fibres ..... a.
a. Stipe subbulbous ..... 84.
a. Stipe not bulbous ..... 85.
Pileus entire, scaly, not white ..... b.
b. Pileus ochraceous ..... 86.
b. Pileus brown ..... 87.
Pileus entire, smooth, white ..... c.
c. Lamellæ deeply emarginate ..... 88.
c. Lamellæ slightly emarginate ..... 89.

84. AGARICUS RIMOSUS *Bull.*

Pileus fleshy, thin, conical or campanulate, then expanded, sometimes umbonate, longitudinally cracking, fibrous, dull reddish-brown, the margin sometimes uneven, often splitting; lamellæ narrow, close, tapering toward the stipe, subfree, whitish, becoming darker; stipe equal or slightly tapering upward, fibrous, solid, white, rarely brownish, bulbous, the bulb flattened.

Height 2′–3′, breadth of pileus 1′–2′.

Roadsides in woods. North Elba. August.

85. AGARICUS LACERUS *Fr.*

Pileus thin, fleshy, conical or campanulate, then convex or expanded, fibrous, longitudinally cracking, the margin splitting, color pale yellowish-brown; lamellæ not broad, tapering toward the stem, nearly free, brownish-yellow; stipe equal, firm, solid, fibrous, white; spores rough.

Height 2′, breadth of pileus 6″–18″.

Grassy grounds in fields and open woods. Greenbush. June.

The cuticle of the disk sometimes breaks up into scales.

86. AGARICUS SUBOCHRACEOUS *n. sp.*

Pileus thin, conical or convex, sometimes expanded, generally umbonate, fibrillose-squamulose, pale ochraceous-yellow; lamellæ rather broad, attached, emarginate, whitish,

becoming brownish-yellow; stipe equal, whitish, slightly fibrillose, solid.

Height 1′–2′, breadth of pileus 9″–18″.

Ground in groves and open places. Sandlake and West Albany. June–October.

In very wet weather the pileus sometimes splits on the margin.

87. AGARICUS FLOCCULOSUS *Berk.*

Pileus thin, fleshy, convex or subcampanulate, umbonate, squamulose, grayish-brown; lamellæ broad, subventricose, attached, pale brownish, tinged with red; stipe firm, solid, fibrillose, a little paler than the pileus.

Height 1′–2′, breadth of pileus 6″–12″.

Ground in fields and by roadsides. North Elba and West Albany. September and October.

88. AGARICUS SARCOPHYLLUS *n. sp.*

Pileus fleshy, short and obtusely conical or convex, smooth, white, the margin incurved; lamellæ broad, not crowded, attached, deeply emarginate, dingy flesh-color; stipe equal, smooth, white, firm, stuffed, mealy-squamulose above, spores smooth, very dark ferruginous.

Height 1′–2′, breadth of pileus 6″–18″.

Wet grassy ground. Greenbush. June.

Taste slightly bitter. The edge of the lamellæ is slightly eroded. Their deep emargination and peculiar color make this a strongly marked species. At first sight, it looks like a small *Psalliota*. (Plate 1, figs. 7-11.)

89. AGARICUS GEOPHYLLUS *Sow.*

Pileus fleshy, thin, conical, then convex or expanded, broadly umbonate, silky, smooth, white; lamellæ close, not broad, slightly emarginate, attached, whitish, becoming dingy brownish; stipe firm, equal, rather long, white, solid or stuffed.

Height 2′–3′, breadth of pileus 6″–9″.

Ground in woods and open places. North Elba and Greenbush. August–October.

Series 4 — PRATELLÆ.

Spores brownish-purple or brown.

Subgenus — Psalliota.

Veil fixed to the stem, forming a ring.— *Berk. Outl.*

The species of this subgenus are easily recognized, though not always easily distinguished from each other. The pileus is generally white or yellowish, the lamellæ at length brown or blackish, and the stipe generally rather stout, fleshy and annulate.

SYNOPSIS OF THE SPECIES.

Stem hollow or stuffed ..... a.
a. Pileus thick, fleshy; stem stout ..... b.
b. Stem not bulbous ..... 90.
b. Stem bulbous ..... 91.
a. Pileus thin; stem slender ..... c.
c. Stem hollow ..... 94.
c. Stem stuffed with a pith ..... 95.
Stem solid, scaly ..... 92.
Stem solid, smooth ..... 93.

* 90. AGARICUS CAMPESTRIS *L.*

Pileus thick, fleshy, convex, smooth or slightly silky, white, the margin surpassing the gills; lamellæ close, rounded, free, bright flesh-colored, then blackish-brown; stipe short, stout, white, stuffed, annulate, not bulbous; annulus white, single.

Height about 2′, breadth of pileus 1′–3′, stipe 4″–6″ thick.

Grassy ground in fields. Albany. September.

Not abundant. Edible. This is the species commonly cultivated, and generally know by the indefinite term *Mushroom.*

91. AGARICUS SILVICOLA *Vitt.*

Pileus fleshy, campanulate, becoming convex, smooth, white or yellowish, the margin scarcely exceeding the gills and often purplish-stained; lamellæ whitish, then pinkish brown, narrower toward either end, rounded and free; stipe rather long, stout, stuffed or hollow, bulbous, annulate, white; annulus thick, double, the outer part often splitting into rays.

Height 4′–6′, breadth of pileus 3′–5′.

Ground in pine woods. West Albany. October.

This species is sometimes called a variety of *A. campestris;* but it appears to me to be clearly distinct. The bulb of the stem is flattened. The exterior of the annulus is sometimes stained with yellow, and the pileus becomes more yellow by bruising.

92. AGARICUS HORNEMANNI *Fr.*

Pileus fleshy, convex, becoming expanded, smooth, viscid when moist, pale yellow; lamellæ moderately broad, attached,

subdecurrent, whitish, then purplish-brown; stipe stout, solid, rough, with squarrose scales below the annulus, slightly striate above, white or pale yellow; spores purplish-brown.

Height 4′–6′, breadth of pileus 2′–4′, stipe 6″ thick.

Ground in woods. Sandlake and Catskill Mountains. October. A fine species.

93. AGARICUS JOHNSONIANUS *n. sp.*

Pileus fleshy, soft, brittle, broadly convex or expanded, smooth, white, the disk yellowish, the margin thin, sometimes purplish-stained, and, when moist, striatulate; lamellæ close, rounded at the inner extremity, nearly free, white, then brown; stipe equal, smooth, annulate, solid, slightly striate at the top; annulus white, tumid, stained by the brown spores.

Height 2′–4′, breadth of pileus 2′–4′, stipe 3″–5″ thick.

Grassy ground in pastures. Knowersville. September. It has a sweetish nutty flavor.

Dedicated to Hon. A. S. Johnson, a worthy patron of natural science, who has communicated to me specimens of some fine species of fungi. (Plate 3, figs. 4–6.)

94. AGARICUS SEMIGLOBATUS *Batsch.*

Pileus thin, hemispherical, sometimes convex, smooth, glutinous when moist, white or pale yellow; lamellæ very broad, loose, attached, becoming black; stipe slender, smooth, tall, hollow, concolorous, annulate, viscid; the annulus slight, stained by the purplish-black spores, at length disappearing.

Height 3′–5′, breadth of pileus 6″–12″.

On dung. Very common. May–September.

95. AGARICUS STERCORARIUS *Fr.*

Pileus thin, fleshy, convex, then expanded, smooth, viscid, yellow; lamellæ broad, attached, brownish or brownish-black; stipe firm, viscid when moist, stuffed with a whitish pith.

Height 2′–3′, breadth of pileus 6″–9″.

On dung and rich soil. West Albany. June.

Differs from the preceding by its stuffed stem, and expanded pileus.

Subgenus — Hypholoma.

Veil woven into a fugacious web, which adheres to the margin of the pileus. — *Berk. Outl.*

In this subgenus the stem is not annulate.

SYNOPSIS OF THE SPECIES.

Pileus smooth, not hygrophanous..... 94.
Pileus tomentose, hygrophanous..... 95.

96. AGARICUS PERPLEXUS *n. sp.*

Pileus fleshy, convex, then expanded, often broadly subumbonate, smooth, yellow, the disk red or brownish-red, the margin paler; lamellæ not broad, rounded at the inner extremity, easily separating from the stipe, pale yellow, then greenish-tinged, finally purple-brown; stipe subequal, firm, slightly fibrillose, hollow, yellow, reddish at the base; flesh white; spores purplish-brown.

Height 2′–3′, breadth of pileus 2′–3′, stipe 2′′–3′′ thick.

About stumps in woods or open places. Common. Sandlake, Albany and Catskill Mountains. September and October.

The plant has a mild taste and no marked odor. It grows singly or in dense tufts. It is closely related to *A. sublateritius*, *A. epixanthus* and *A. fascicularis*, but as it does not agree with the description of either of them, I have no alternative but to describe it as a new species.

97. AGARICUS VELUTINUS *Pers.*

Pileus fleshy, thin, convex or expanded, brittle, minutely tomentose-scaly, becoming smooth, hygrophanous, yellow with the disk reddish; lamellæ rather broad, attached, tapering toward the outer extremity, dark brown tinged with red, the edge whitish-beaded; stipe equal, rather slender, hollow, fibrillose, subconcolorous, white-mealy and slightly striate at the top; spores black.

Height about 2′, breadth of pileus 1′–1.5′.

Roadsides. Albany Cemetery. September. The pileus sometimes cracks transversely.

Subgenus — Psilocybe.

Veil, if present, not forming a ring. Margin of pileus at first incurved.—*Berk. Outl.*

The species of this subgenus are smaller, and have the pileus thinner than those preceding.

SYNOPSIS OF THE SPECIES.

Pileus hygrophanous ..... a.
a. Lamellæ with a pinkish hue ..... 98.
a. Lamellæ with no pinkish tinge ..... 99.
Pileus viscid ..... 100.

98. AGARICUS SPADICEUS *Schæff.*

Pileus thin, submembranaceous, hemispherical, then convex or expanded, smooth, hygrophanous, pale grayish-brown and striatulate when moist, white or yellowish when dry; lamellæ narrow, close, attached, easily separating from the stipe, at first whitish, then brown, tinged with flesh-color; stipe straight, equal, hollow, smooth, white.

Height 1′–2′, breadth of pileus 1′–1.5′, stipe 1″–2″ thick.

Grassy ground in yards and fields. Albany. June. Gregarious or cæspitose. The pileus is fragile, the spores are brown.

99. AGARICUS CERNUUS *Mull.*

Pileus thin, slightly fleshy, convex, smooth, hygrophanous, dark watery brown and marginally striatulate when moist, yellowish or pale ochraceous and more or less rugose-wrinkled when dry; lamellæ close, narrow, attached, whitish, then dark brown; stipe smooth, shining, white, hollow, sometimes wavy; spores brown.

Height 1′–2′, breadth of pileus 8″–18″.

About or on old stumps and logs in woods. Sandlake and Catskill Mountains. September and October.

In drying, the pileus begins to change color on the disk, leaving the margin dark for a little time.

100. AGARICUS SEMILANCEOLATUS *Pers.*

Pileus thin, submembranaceous, smooth, conical and acute or convex and obtuse, sometimes with a small acute umbo, viscid when moist, and sometimes obscurely striatulate, whitish or pale yellow; lamellæ rather broad, loose, attached, slightly emarginate, purple-black, the edge white; stipe slender, subflexuous, smooth, pruinose at the top, stuffed with a pith or hollow, white-villous at the base.

Height 2′–3′, breadth of pileus 6″–10″.

On dung in pastures. Bethlehem. November.

Series 5 — COPRINARIUS.

Spores black; gills never becoming purple or brown.

Subgenus — Panæolus.

Veil, when present, interwoven. Pileus rather fleshy, without striæ; margin at first extending beyond the gills, which are clouded.—*Berk. Outl.*

The pileus is thin, seldom expanded; the lamellæ are ascending, becoming clouded, at length black with spores, not dissolving, the edge often white; the stipe is smooth, rather long and firm, generally hollow.

SYNOPSIS OF THE SPECIES.

Stem solid ..... 99.
Stem hollow ..... a.
a. Pileus with an obscure marginal band ..... 100.
a. Pileus with no marginal band ..... b.
b. Pileus reticulated ..... 101.
b. Pileus not reticulated ..... c.
c. Whitish-gray or yellowish-white ..... 102.
c. Brownish, subshining ..... 103.

101. AGARICUS SOLIDIPES *n. sp.*

Pileus firm, at first hemispherical, then subcampanulate or convex, smooth, whitish, the cuticle at length breaking up into dingy-yellowish, rather large, angular scales; lamellæ broad, slightly attached, whitish, becoming black; stipe firm, smooth, white, solid, slightly striate at the top; spores very black with a bluish tint.

Height 5′–8′, breadth of pileus 2′–3′, stipe 2″–4″ thick.

Dung heaps. West Albany. June.

A large species, remarkable for its solid stem. The scales on the pileus are larger on the disk, becoming smaller toward the margin. The upper part of the stipe is sometimes beaded with drops of moisture. (Plate 4, figs. 1–5.)

102. AGARICUS FIMICOLA *Fr.*

Pileus subcampanulate or convex, smooth, moist, pale grayish-brown, tinted with ochre, girt with a narrow darker marginal band; lamellæ broad, attached, becoming blackish with a grayish-purple tinge; stipe hollow, pallid, pruinose above.

Height 2′–4′, breadth of pileus 10″–18″.

Dung heaps. West Albany. June.

The plant is sometimes cæspitose. The pileus is often darker on the disk and sometimes spotted or scaly there. The marginal zone is more distinct in young and moist specimens, becoming obsolete or even disappearing in old or dry ones.

103. AGARICUS RETIRUGIS *Batsch.*

Pileus at first subglobose, at length hemispherical and broadly subumbonate, reticulate-veined, grayish-white, the margin subfringed with the appendiculate veil; lamellæ broad, attached, becoming grayish-black; stipe long, firm, hollow, pruinose, pinkish-tinged.

Height 3′–4′, breadth of pileus 6″–12″.

Pastures. Knowersville. September.

104. AGARICUS PAPILIONACEUS *Bull.*

Pileus subhemispherical, sometimes subumbonate, smooth, or with the cuticle breaking up into scales, whitish-gray, often tinged with yellow; lamellæ very broad, attached, becoming black; stipe slender, firm, hollow, pruinose above, whitish, sometimes tinged with red or yellow, slightly striate at the top and generally stained by the spores.

Height 3′–5′, breadth of pileus 6″–18″.

On dung and rich soil. Common. May and June.

A small form occurs with the pileus nearly white, scarcely half an inch in diameter, and the cuticle not cracking.

105. AGARICUS CAMPANULATUS *L.*

Pileus oval campanulate or obtusely conical, sometimes umbonate, smooth, somewhat shining, brownish, with a peculiar gray or lead-colored tint, sometimes becoming reddish tinted, the margin often scolloped or fringed with the appendiculate veil; lamellæ not broad, attached, becoming grayish-black; stipe long, slender, hollow, reddish, pruinose and slightly striate at the top, at length dusted with the spores.

Height 4′–6′, breadth of pileus 6″–12″.

On horse dung and rich soil. June and July. Common.

In very wet weather the cuticle of the pileus sometimes cracks into scales or areas.

Subgenus — Psathyrella.

Veil not interwoven; pileus membranaceous, margin not reaching beyond the gills. — *Berk. Outl.*

The species in this subgenus are more fragile than those in the preceding, the pileus thinner, often hygrophanous and striatulate, and the gills extend to its margin.

SYNOPSIS OF THE SPECIES.

Pileus hygrophanous, smooth ..... a
a. Pileus conical 106
a. Pileus obtusely campanulate 107
Pileus sulcate-striate, not hygrophanous ..... b

106. AGARICUS GRACILIS *Fr.*

Pileus submembranaceous, conical, smooth, hygrophanous, watery-brown and striatulate when moist, yellowish or cream-colored when dry; lamellæ broad, not close, attached, becoming grayish-black; stipe slender, straight, smooth, hollow, whitish.

Height 4′–6′, breadth of pileus 9″–12″.

Rich grassy ground. Knowersville. September.

The straight tall stem and regular conical pileus make this a beautiful species. The margin of the pileus first begins to decay.

107. AGARICUS ATOMATUS *Fr.*

Pileus membranaceous, subcampanulate, obtuse, smooth, hygrophanous, brownish, tinged with pink or ochre and striatulate when moist, paler and with sparkling atoms when

dry; lamellæ broad, attached, dusky-brown, stipe whitish, hollow, fragile, mealy above.

Height 2′, breadth of pileus 6″–10″

Grassy ground. West Albany. June.

108. AGARICUS DISSEMINATUS *Pers.*

Pileus membranaceous, ovate or subcampanulate, obtuse, sulcate-striate, grayish; lamellæ few, distant, not broad, whitish, then pinkish-purple, finally black; stipe slender, hollow, fragile, white; plant cæspitose.

Height about 1′, breadth of pileus 3″–4″.

On decaying sticks. Albany Rural Cemetery. September.

It resembles the small sulcate-striate *Coprini*, but the lamellæ do not dissolve.

Genus—COPRINUS *Fr.*

Gills membranaceous, deliquescent, spores black.—*Berk. Outl.*

The species of this genus are readily known by the lamellæ soon dissolving into an inky fluid. They are quite ephemeral, many of them not continuing beyond a single day. Specimens are preserved with difficulty, these plants being fragile as well as perishable. The inky fluid from the lamellæ, after being boiled, is sometimes used as ink. The larger species may also be made into a catsup.

SYNOPSIS OF THE SPECIES.

Stem annulate ..... 1.
Stem not annulate ..... a.
a. Pileus not at all or only closely striate ..... b.
b. Pileus with an evanescent floccose covering ..... 2.
b. Pileus with a persistent floccose covering ..... 3.
b. Pileus naked, or nearly so ..... 4.
a. Pileus distantly sulcate-striate ..... c.
c. Lamellæ attached to a collar ..... 5.
c. Lamellæ attached to the stem ..... 6.

*1. COPRINUS COMATUS *Fr.*

Pileus thin, cylindrical, then campanulate, rough with broad rather distant fibrous scales, whitish, the margin soon discolored revolute and lacerated; lamellæ linear, crowded, free, white, then pink, finally black; stipe nearly equal, fibrillose, hollow, annulate, the annulus movable, the cavity of the stem containing a gossamer-like web.

Height 6′–8′, breadth of pileus 2′–3′, stipe 3″–4″ thick.

Manured grounds. Common. September and October. Edible. Our largest species.

2. COPRINUS TOMENTOSUS *Fr.*

Pileus very thin, at first oblong-oval and floccose-scaly, soon campanulate, naked, closely striate, cinereous-brown or blackish-brown, often with a leaden hue, finally expanded, the disk smooth, reddish or ochraceous-brown, the margin revolute and much split or lacerated; lamellæ closely crowded, linear, free, white, then pinkish, finally black; stipe white, tall, fragile, tapering upward, finely floccose-squamulose, hollow, sometimes with a large tap root; plant gregarious or cæspitose.

Height 3′–6′, breadth of pileus 6″–18″.

Dung heaps. West Albany and Sandlake. June and July.

Very variable in size and color. The covering of the pileus is easily rubbed off. It soon disappears, and the plant quickly decays, seldom continuing through the day.

3. COPRINUS NIVEUS *Fr.*

Pileus thin, at first long ovate, then campanulate or expanded, coated with a dense white mealy or floccose-squamulose persistent covering, slightly tinged with pink, the margin somewhat revolute and splitting; lamellæ narrow, crowded, attached, white, then pinkish, finally black; stipe white, nearly equal, fragile, hollow, with a white villous-floccose covering.

Height 3′–5′, breadth of pileus 8″–15″.

Dung heaps. West Albany. June.

*4. COPRINUS MICACEUS *Fr.*

Pileus thin, ovate, then campanulate, with the margin more or less revolute, wavy, splitting, closely striate, with a few minute scales and sparkling atoms, or naked, varying in color from whitish-ochraceous to livid brown, generally darker when moist or old; lamellæ rather narrow, crowded, white, then pinkish, finally black; stipe slender, fragile, easily splitting, slightly silky, white, hollow, often twisted; plant mostly cæspitose.

Height 2′–4′, breadth of pileus 1″–2″.

Streets, yards and fields, on or about old stumps. May-September.

*5. COPRINUS PLICATILIS *Fr.*

Pileus very thin and delicate, soon expanded, distantly sulcate-striate, grayish-brown, tinged with red, the disk smooth, depressed, the margin splitting; lamellæ narrow, distant,

attached to a collar formed of the dilated apex of the stipe, grayish, then black; stipe slender, hollow, smooth, white.

Height 1′–2′, breadth of pileus 6″–9″.

Rich ground. Albany. June.

6. COPRINUS EPHEMERUS *Fr.*

Pileus very thin and delicate, ovate-campanulate, at length expanded with the margin recurved and split, distantly sulcate-striate, cinereous, the disk smooth, elevated, reddish; lamellæ distant, very narrow, attached, grayish, then black, stipe very slender, fragile, white, hollow; plant sometimes cæspitose.

Height 1′–1.5′, breadth of pileus 4″–6″.

Dung heaps. Albany and Sandlake. June and July.

Genus — CORTINARIUS *Fr.*

Gills membranaceous, persistent; trama floccose. Veil consisting of arachnoid threads. Spores rusty-ochre. — *Berk. Outl.*

A large and difficult genus, containing many closely related species, varying in color and differing in size, according to conditions of weather and locality. The color of the spores is reddish-ochre, sometimes ochraceous, and the veil is composed of fine filaments, which may generally be seen in the young expanding plant, stretching from the stipe to the margin of the pileus. The prevailing color of these plants is some shade of yellow or ochre, and the emarginate lamellæ at length become cinnamon-color. Most of the species grow in woods and shaded places.

Subgenus — Phlegmacium.

Pellicle of pileus viscid when moist. Veil, and consequently the stem from which it springs, dry. — *Berk. Outl.*

The viscid pileus and dry stem are the marks of this subgenus, but it should be borne in mind that a viscid pileus when old or dry ceases to be viscid.

SYNOPSIS OF THE SPECIES.

Stem bulbous, lamellæ pallid ..... 1.
Stem bulbous, lamellæ yellow ..... 2.
Stem not bulbous nor annulate ..... 3.
Stem not bulbous, annulate ..... 4.

1. CORTINARIUS COLORATUS *n. sp.*

Pileus fleshy, broadly convex or expanded, smooth, bright reddish-yellow; lamellæ thin, deeply emarginate, eroded on

the edge, whitish, then cinnamon; stipe equal, solid or stuffed, firm, fibrillose, whitish, bulbous.

Height 4′–6′, breadth of pileus 3′–4′, stipe 4″–6″ thick.

Mossy ground under fir trees. Catskill Mountains. October.

The lamellæ appear as if finely and obscurely striated transversely. The color of the pileus is a rich, reddish-yellow, almost orange.

2. CORTINARIUS LUTEO-FUSCUS *n. sp.*

Pileus fleshy, broadly convex, even, smooth, brown; lamellæ rather close, yellow, then cinnamon, deeply emarginate; stipe equal, nearly straight, solid, silky, striate, whitish, bulbous.

Height about 4′, breadth of pileus 2′, stipe 3″–4″ thick.

Woods. North Elba. August. The fuscous pileus, yellow lamellæ, and white stem give the plant a tricolored appearance.

3. CORTINARIUS COMMUNIS *n. sp.*

Pileus fleshy, broadly convex or expanded, whitish or gray, tinged with red, the disk deeper colored; lamellæ rather broad, not crowded, emarginate and spuriously decurrent-toothed, whitish, then ochraceous-cinnamon; stipe equal, solid or stuffed, not bulbous, white-mealy at the top, fibrillose below, dingy white.

Height 2′–4′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Woods and open places. Common. Center, Catskill Mountains, etc. September and October.

4. CORTINARIUS CAPERATUS *Fr.*

Pileus fleshy, not thick except on the disk, at first ovate, then subcampanulate or expanded, obtuse or broadly subumbonate, often irregular and rugose-wrinkled, bright egg-yellow; lamellæ rather broad, slightly emarginate and decurrent-toothed, whitish, then pale cinnamon; stipe stout, nearly equal, not bulbous, solid, annulate, white, mealy-squamulose above the ring.

Height 4′–8′, breadth of pileus 3′–5′, stipe 6″–10″ thick.

Woods. Catskill and Adirondack Mountains. August-October.

A large and showy species, not agreeing well with the characters of the subgenus. The pileus is said to be slightly viscid and incrusted with superficial white flocci, which at length disappear. In our specimens, even when young, no incrustation was perceptible, neither was the pileus clearly

viscid. The edge of the lamellæ, too, is entire, not serrated, as described. These facts show it to be not only an aberrant species, but also a variable one. The annulus shows its relation to the subgenus *Pholiota*, in which it was formerly placed. The character and color of the pileus and the obscure transverse striations of the lamellæ indicate its relation to the following species.

Subgenus—Myxacium.

Universal veil, and consequently the stem, viscid and polished when dry.—*Berk. Outl.*

SYNOPSIS OF THE SPECIES.

Stem not bulbous ..... 5.
Stem bulbous ..... 6.

5. CORTINARIUS COLLINITUS *Fr.*

Pileus fleshy, rather thin except the disk, subcampanulate, then convex, obtuse or broadly umbonate, generally longitudinally rugose-wrinkled, very viscid or glutinous, bright tawny-yellow, shining; lamellæ slightly emarginate, whitish, then pale cinnamon; stipe stout, equal, solid, viscid, white, smooth or at length scaly from the cracking of the viscid covering when dry.

Height 3′–5′, breadth of pileus 2′–3′, stipe 4″–6″ thick.

Ground in woods. Sandlake and Catskill Mountains. September and October.

Plant sometimes cæspitose.

6. CORTINARIUS TRICOLOR *n. sp.*

Pileus convex, smooth, yellow; lamellæ rather close, attached, emarginate, whitish, slightly violet-tinged, then pale cinnamon; stipe equal, bulbous, white, tinged with violet at the top.

Height 2′–3′, breadth of pileus 1.5′–2′, stipe 3″–4″ thick.

Sandy soil. Center. October.

Subgenus—Inoloma.

Pileus fleshy, dry, at first silky with scales or innate fibres, not hygrophanous; stem bulbous.—*Berk. Outl.*

The bulbous or enlarged base of the stem in many species gradually tapers upward so that the stem becomes somewhat conical, or obclavate.

SYNOPSIS OF THE SPECIES.

Pileus densely squamulose ..... a.
a. Plant violet-colored ..... 7.
a. Plant cinnamon-brown ..... 8.
Pileus smooth or silky ..... b.
b. Pileus tinged with violet or lilac ..... c.
c. Stem white; plant odorous ..... 9.
c. Stem tinged with lilac above ..... 10.
b. Pileus not violet or lilac-tinged ..... d.
d. Dull yellow, variegated with matted ferruginous fibrils ..... 11.
d. Ferruginous, sprinkled with whitish fibrils ..... 12.
d. Ochraceous ..... 13.

7. CORTINARIUS VIOLACEUS *L.*

Pileus fleshy, even, convex, rough with numerous small hairy scales, dark violet-color; lamellæ loose, thick, rather broad, violet, then brownish-cinnamon; stipe equal or slightly tapering upward, solid, slightly striate-fibrillose, bulbous, violet.

Height 3′–5′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Ground in woods. Adirondack Mountains. August.

A pretty species. The flesh is pale violet color. Edible.

8. CORTINARIUS SQUAMULOSUS *n. sp.*

Pileus thick, fleshy, convex, densely fibrillose-squamulose, cinnamon-brown, the scales darker; lamellæ not crowded, deeply emarginate, pale pinkish-brown, then cinnamon-colored; stipe thick, solid, shreddy, subsquamulose, concolorous, swollen at the base into a very large tapering or subventricose bulb.

Height 4′–6′, breadth of pileus 2′–4′, stipe 6″–9″ thick at the top, 12″–18″ at the bottom.

Borders of swamps in woods. Sandlake. August.

Related to *C. pholideus* and *C. arenatus*, but distinct by the deep emargination of the lamellæ. It gives out a strong odor while drying. The color of the flesh is pinkish-white. (Plate 3, figs. 1–3.)

9. CORTINARIUS ARGENTATUS *Fr.*

Pileus fleshy, convex, then expanded, smooth, bluish-lilac or pale violet, the margin at first silky, then whitish; lamellæ rather close, whitish, then cinnamon-color; stipe short, thick, solid, somewhat bulbous, easily splitting, whitish.

Height 2′–3′, breadth of pileus 2′–4′, stipe 6″–10″ thick.

Ground in woods. Bethlehem and Knowersville. September.

It has a strong odor not unlike that of chestnut blossoms. The lamellæ are sometimes serrated.

10. CORTINARIUS ALBOVIOLACEUS *Pers.*

Pileus fleshy, rather thin, convex, then expanded, sometimes broadly subumbonate, smooth, silky, whitish, tinged with lilac or pale violet; lamellæ generally serrulate, whitish-violet, then cinnamon-color; stipe equal or a little tapering upward, solid, silky, white, stained with violet, especially at the top, slightly bulbous, the bulb gradually tapering into the stipe.

Height, 3′–4′, breadth of pileus 2′–3′, stipe 3″–6″ thick.

Ground in thin woods, more frequently under poplars. Center. October.

The stem is sometimes subannulate, and being violet above and white below the obscure ring, it appears as if sheathed with a silky white covering. Inodorous. Sometimes the stem gradually tapers from the base to the top, so that it can scarcely be called bulbous.

11. CORTINARIUS AUTUMNALIS *n. sp.*

Pileus fleshy, convex or expanded, dull rusty-yellow, variegated or streaked with innate ferruginous fibrils; lamellæ rather broad, with a wide shallow emargination; stipe equal, solid, firm, bulbous, a little paler than the pileus.

Height 3′–4′, breadth of pileus 2′–4′, stipe 6″ thick.

Pine woods. Bethlehem. November.

The plant is sometimes cæspitose. The flesh is white.

12. CORTINARIUS CATSKILLENSIS *n. sp.*

Pileus fleshy, convex or subcampanulate, then subexpanded, even, pale ferruginous clothed with minute scattered white fibrils; lamellæ watery cinnamon, becoming darker with age, deeply emarginate; stipe stout, solid, nearly white, fibrillose; the bulbous base gradually tapering into the stipe.

Height 3′–4′, breadth of pileus 2′–3′, stipe 6″–10″ thick.

Ground in open places. Catskill Mountains. October.

13. CORTINARIUS OCHRACEUS *n. sp.*

Pileus fleshy, convex, at length broadly subumbonate or gibbous, smooth, even or obscurely wrinkled, pale ochraceous; stipe solid, fibrillose, ochraceous at the top, white below, gradually enlarged into a thick bulbous base.

Height 2′–4′, breadth of pileus 2′–3′, stipe 4″–6″ thick at the top, 12″–18″ at the base.

Under balsam trees in open places. Catskill Mountains. October.

The stipe appears as if sheathed. In some specimens the stipe is short and rapidly tapers from the base to the top.

Subgenus—Dermocybe.

Pileus thin, silky with innate down, dry, not hygrophanous; stem equal or attenuated, not bulbous.—*Berk. Outl.*

Synopsis of the Species.

Stem red ..... 14.
Stem yellow 15

14. CORTINARIUS SANGUINEUS *Fr.*

Pileus rather thin, convex or expanded, with decurved margin, silky or minutely squamulose, bright red; lamellæ rather close and broad, emarginate, a little darker red than the pileus; stipe equal, stuffed or solid, nearly smooth, concolorous.

Height about 2′, breadth of pileus 6″–12″, stipe 1″–2″.

In woods. Adirondack Mountains. August.

A beautiful species, easily recognized.

15. CORTINARIUS CINNAMOMEUS *Fr.*

Pileus fleshy, thin, convex, sometimes obtusely umbonate, silky or minutely squamulose, cinnamon-brown; lamellæ close, not broad, slightly emarginate, yellow, then cinnamon; stipe equal, solid or stuffed, silky, yellow.

Height 2′–4′, breadth of pileus about 1′, stipe 2″ thick.

In woods. Adirondack Mountains. August.

The pileus varies in color, being at one time nearly yellow, at another dark brown. The color of the lamellæ also varies.

Var. *semisanguinea* has the lamellæ red, almost as in the preceding species, also the base of the stipe red. Center. October.

Subgenus—Telamonia.

Pileus moist, hygrophanous, smooth, or clothed only with evanescent threads; stem peronate (sheathed with the interwoven veil).—*Berk. Outl.*

Synopsis of the Species.

Stipe bulbous ..... 16.
Stipe not bulbous ..... a.
a. Pileus at first squamulose ..... 17.
a. Pileus smooth, bay ..... b.
b. Stipe stout ..... 18.
b. Stipe slender, subannulate ..... 19.

16. CORTINARIUS ARMILLATUS *Fr.*

Pileus fleshy, thick, convex or subcampanulate, then expanded, minutely squamulose, yellowish-red; lamellæ not

close, broad, slightly emarginate, whitish-ochraceous, then cinnamon; stipe stout, solid, fibrillose, whitish, girt with one to four red bands, bulbous.

Height 4′–6′, breadth of pileus 2′–4′, stipe 4″–8″ thick.

Woods. North Elba. August.

A large and noble species. The margin of the pileus is thin and sometimes uneven; the upper band on the stem is usually the brightest and most regular. The pileus is not distinctly hygrophanous.

17. Cortinarius distans *n. sp.*

Pileus thin except the disk, convex, squamulose, bay-brown when moist, tawny when dry; lamellæ broad, distant, thick, dark cinnamon-color; stipe subequal, often a little tapering upward, solid, slightly fibrillose-scaly, concolorous.

Height 2′–3′, breadth of pileus 1′–2′, stipe 4″–6″ thick.

Grassy ground in pine woods. Greenbush. June.

The flesh is dull yellowish. The pileus, when drying, has for a time a brown marginal zone.

18. Cortinarius biformis *Fr.*

Pileus fleshy, thin except the disk, convex or subcampanulate, then expanded and broadly umbonate, smooth, shining, of a bay color; lamellæ rather broad at the inner extremity, tapering outwardly, subrounded at the stipe, scarcely emarginate, watery cinnamon; stipe stout, solid or stuffed, fibrillose-striated, paler than the pileus, subannulate, the sheath white, generally obliquely terminating, sometimes distant.

Height 2′–4′, breadth of pileus 2′, stipe 3″–4″ thick.

Ground under spruce and balsam trees. Catskill Mountains. October.

The plant is sometimes cæspitose, and not unfrequently the cuticle cracks into scales or areas.

19. Cortinarius castaneoides *n. sp.*

Pileus thin, convex, becoming expanded, with deflexed margin, smooth, dark bay or chestnut-color when moist, paler when dry; lamellæ not crowded, slightly and unequally emarginate, yellowish-cinnamon, then cinnamon-color; stipe slender, equal, stuffed or hollow, subannulate, paler than the pileus, the veil or sheath white.

Height 1′–2′, breadth of pileus 6″–12″, stipe 1″–2″ thick.

Under hemlock trees. Catskill Mountains. October.

The pileus sometimes has a small umbo. The plant is gregarious or cæspitose. The veil is subpersistent, and its abrupt termination affords a quite distinct annulus. (Plate 4, figs. 10–15.)

Subgenus—Hygrocybe.

Pileus hygrophanous; stem distinct from the fibrillose veil, hence neither annulate nor floccose-squamulose.—*Berk. Outl.*

SYNOPSIS OF THE SPECIES.

Pileus dark bay ..... a.
Pileus pale watery cinnamon ..... b.

20. CORTINARIUS CASTANEUS *Bull.*

Pileus fleshy, thin, campanulate or convex, then expanded, dark chestnut-color when moist, paler when dry; lamellæ rather broad, violet-tinged, then cinnamon, stipe fibrillose, stuffed or hollow, lilac-tinged at the top, white below.

Height 2′–3′, breadth of pileus 1′–2′, stipe 3″–4″ thick.

Ground under spruce and balsam trees. Catskill Mountains. October. Edible.

21. CORTINARIUS VERNALIS *n. sp.*

Pileus thin, hemispherical or convex, then more or less expanded, smooth or at first clothed with a few silky fibrils, pale watery cinnamon when moist, nearly white or yellowish-white when dry; lamellæ rather close, tapering toward the outer extremity, very slightly emarginate, pale cinnamon; stipe subconcolorous, smooth, slender, hollow, easily splitting.

Height 1′–1.5′, breadth of pileus 6″–12″, stipe 1″ thick.

Wet ground in pastures. Helderberg Mountains. May. In very wet ground the margin of the pileus becomes recurved. The spores are ochraceous.

Genus—HYGROPHORUS *Fr.*

Hymenophorum continuous with the stem, and descending without change into the sharp-edged gills; hymenium waxy. —*Berk. Outl.*

The pileus is viscid or moist; the lamellæ are generally distant and decurrent, of a waxy nature and with a watery juice.

SYNOPSIS OF THE SPECIES.

Pileus convex conic or campanulate, not umbilicate ..... a.
a. Pileus viscid or glutinous when moist ..... b.
b. Stem solid or stuffed ..... c.
c. Lamellæ white ..... 1.
c. Lamellæ red ..... 2.
b. Stem hollow ..... d.
a. Pileus not distinctly viscid ..... e.
e. Lamellæ white ..... 3.
e. Lamellæ colored ..... 4.
Pileus convex, at length umbilicate or depressed ..... f.
f. Pileus not viscid ..... 5.
f. Pileus viscid ..... 6.

1. HYGROPHORUS CHRYSODON *Fr.*

Pileus fleshy, not thick, convex, then expanded, viscid when moist, white, the disk often yellowish, the margin dotted with little yellow floccose scales; lamellæ subarcuate, decurrent, distant, white, sometimes faintly pinkish-tinged; stipe equal or slightly attenuated below, solid, white, dotted with yellow floccose scales, especially toward the top.

Height 2′–3′, breadth of pileus 1′–2′, stipe 2″–4″ thick.

Pine woods. Bethlehem. November.

The lamellæ are said to be crisped, and, when young, to have the edge yellow-floccose; but I have seen no such specimens.

2. HYGROPHORUS PRATENSIS *Fr.*

Pileus convex, firm, even, smooth, moist, white; lamellæ distant, rather thick, arcuate, decurrent, white or yellowish-white; stipe nearly equal, smooth, firm, solid or stuffed, white.

Height about 2′, breadth of pileus 6″–18″, stipe 2″ thick.

Woods. North Elba.

This is the white variety, growing in northern woods. The common form, with a turbinate pileus, of a fulvous or tawny color, and lamellæ either white or concolorous, growing in meadows, I have not seen. I suspect a rigid division would separate our plant as a distinct species.

*3. HYGROPHORUS CONICUS *Fr.*

Pileus thin, submembranaceous, fragile, smooth, conical, generally acute, sometimes obtuse, the margin often lobed; lamellæ rather close and broad, subventricose, narrower toward the stem, free, terminating in an abrupt tooth at the outer extremity, scarcely reaching the margin, yellow; stipe equal, fibrous-striate, yellow, hollow.

Height 3′–6′, breadth of pileus 6″–12″, stipe 1″–2″ thick.

Ground in woods and open places. North Elba and Center. August–October.

The color of the pileus is variable. I have taken specimens with it pale sulphur-yellow and others with it bright red or scarlet. The plant turns black in drying.

*4. HYGROPHORUS CERACEUS *Fr.*

Pileus thin, convex, becoming expanded, smooth, shining, viscid, yellow; lamellæ distant, subemarginate, yellow; stipe smooth, shining, viscid, hollow, more or less tapering, compressed or irregular, concolorous.

Height 1′–3′, breadth of pileus 8″–18″.
Open woods. North Greenbush. October.

5. HYGROPHORUS CONGELATUS *n. sp.*

Pileus thin, convex, even, smooth or obscurely fibrillose, sordid red, sometimes tinged with yellow; lamellæ few, distant, broad, subemarginate, decurrent-toothed, bright red; stipe equal, slender, smooth, solid, red, yellow within.

Height 1′, breadth of pileus 4″–6″, stipe about 1″ thick.
Banks by roadsides. North Elba. September.

The specimens were collected in dry weather, but when moistened the pileus appears to be viscid. It has a peculiar, faded, dingy red appearance as if frost-bitten; whence the name. At first sight the plant might be taken for small *Hygrophorus miniatus*, from which it is clearly distinct by the smooth pileus and the color and character of the lamellæ.

6. HYGROPHORUS CANTHARELLUS *Schw.*

Pileus thin, convex, at length umbilicate or centrally depressed, minutely squamulose, moist, bright red, becoming orange or yellow; lamellæ distant, subarcuate, decurrent, yellow, sometimes tinged with vermilion; stipe smooth, equal, subsolid, sometimes becoming hollow, concolorous, whitish within.

Height 2′–4′, breadth of pileus 6″–12″, stipe 1″–2″ thick.
Swamps and damp shaded places in fields or woods. July-September. Common.

Var. *rosea* has the pileus expanded and the margin wavy scolloped. Swamps. Sandlake.

7. HYGROPHORUS NITIDUS *B. & R.*

Pileus thin, fleshy, convex, broadly umbilicate, smooth, shining, viscid, pale yellow with the margin striatulate when moist, nearly white when dry; lamellæ arcuate, decurrent, yellow; stipe slender, brittle, smooth, viscid, hollow, yellow; flesh yellow.

Height 2′–4′, breadth of pileus 8″–12″, stipe 1″–2″ thick.
Swamps. Sandlake. August.
The cavity of the stem is very small. (Plate 1, figs. 2–6.)

Genus — LACTARIUS *Fr.*

Hymenophorum confluent with the stem and vesiculose trama.
Gills milky, edge acute.— *Berk. Outl.*

The species of this genus are most readily known by the milky or rarely colored juice which oozes from the lamellæ when cut or broken. The pileus is generally rather thick, fleshy, at first convex, then more or less centrally depressed, often subfunnel form; the lamellæ are rather close, attached and appearing decurrent from the form of the pileus; the stem is most frequently short and thick, either solid, spongy, stuffed or hollow. The taste is often acrid, hot or peppery, yet some species are mild and considered not only esculent but delicious. The spores are globose and minutely papillose.

Synopsis of the Species.

Pileus viscid when moist ..... a.
a. Milk white, not changing color ..... 2.
a. Milk white, becoming purplish or lilac ..... 3.
a. Milk orange-colored ..... 4.
Pileus dry or not clearly viscid when moist ..... b.
b. Taste mild ..... c.
c. Stem solid; pileus yellowish-tawny ..... d.
d. Lamellæ close ..... 5.
d. Lamellæ distant, connected by veins ..... 6.
c. Stem stuffed or hollow; pileus dark rufous ..... 7.
b. Taste acrid (hot like pepper) ..... e.
e. Milk white, becoming yellow ..... f.
f. Pileus pinkish-yellow ..... 11.
f. Pileus sooty-brown ..... 16.
e. Milk white, unchangeable ..... g
g. Margin of the pileus tomentose ..... 1.
g. Margin of the pileus naked ..... h.
h. Stem solid ..... 1.
i. Pileus white ..... 12.
i. Pileus brown ..... 15.
h. Stem stuffed ..... k.
k. Pileus dark rufous ..... 9.
k. Pileus cinereous or brown, plant odorous ..... 18.
k. Pileus cinereous or brown, plant inodorous ..... 14.
h. Stem at length hollow ..... 1.
l. Stem thick ..... m.
m. Lamellæ broad (4″) ..... 10.
m. Lamellæ narrow (2″) ..... 13.
l. Stem slender ..... n.
n. Pileus cinereous ..... 17.
n. Pileus pale reddish-ochraceous ..... 8.

*1. Lactarius torminosus *Fr.*

Pileus depressed with the margin decurved and villous-tomentose, pallid, sometimes banded or zonate; lamellæ narrow, close, whitish, inclining to yellowish flesh-color; stipe equal, smooth, hollow, whitish.

Height 2′–4′, breadth of pileus 2′–4′, stipe 4″–8″ thick.

Woods. North Elba. August.

The pileus is generally pale ochraceous, somewhat mottled with flesh-color. Sometimes the tomentum extends over nearly the whole surface of the pileus. Taste acrid.

2. LACTARIUS AFFINIS *n. sp.*

Pileus fleshy, viscid, smooth, centrally depressed, pale ochraceous-yellow; lamellæ rather broad, whitish, tinged with yellow, some of them forked near the inner extremity; stipe equal, smooth, stuffed, at length hollow, concolorous; flesh, milk and spores white.

Height 2′–4′, breadth of pileus 3′–4′, stipe 6″–8″ thick.

Pastures. Catskill Mountains. October.

Very near *Lactarius insulsus*, from which it differs only in the entire absence of zones or bands, and in having the spores white, instead of yellow. The taste is acrid. But for the color of the spores, I should not have separated it from *L. insulsus*.

3. LACTARIUS UVIDUS *Fr.*

Pileus rather thin, convex, then expanded, sometimes depressed, smooth, viscid, grayish-brown or livid-brown, tinged with flesh-color, often with a small umbo; lamellæ narrow, close, white or yellowish, becoming purplish or dull lilac when cut or bruised; stipe rather long, equal, or slightly tapering upward, white, stuffed or hollow, smooth; milk white, changing to dull lilac color.

Height 2′–4′, breadth of pileus 1′–2.5′, stipe 3″–5″ thick.

Woods, generally in moist places. North Elba and West Albany. August–October.

Flesh turning purplish when cut. The taste is slightly acrid

4. LACTARIUS DELICIOSUS *Fr.*

Pileus at first convex and broadly umbilicate, then depressed, smooth, viscid when moist, pale orange with brighter colored bands; lamellæ rather broad, subconcolorous; stipe equal, smooth, stuffed or hollow, concolorous, sometimes spotted; milk orange-colored.

Height 2′–3′, breadth of pileus 2′–3′, stipe 4″–6″ thick.

Ground in woods and open places. Catskill and Adirondack Mountains and Sandlake. August–October.

Esculent, and said to be very good. The taste is mild. The pileus fades with age, and the wounded lamellæ at length become stained with green.

*5. LACTARIUS VOLEMUS *Fr.*

Pileus fleshy, thick, firm, convex, then expanded or depressed, dry, yellowish-tawny, the cuticle of the disk sometimes cracking into areas; lamellæ narrow, close, white or

yellowish; stipe nearly equal, short, firm, solid, smooth or pruinose, concolorous; flesh whitish; milk abundant, white, not acrid.

Height 2′–4′, breadth of pileus 2′–4′, stipe about 6″ thick.

Common. July–September. Edible.

6. LACTARIUS DISTANS *n. sp.*

Pileus fleshy, firm, convex or expanded, centrally depressed, pruinose-tomentose, yellowish-tawny, sometimes rugulose-wrinkled; lamellæ distant, subarcuate, connected by veins, white or yellowish; stipe very short, solid, firm, equal or tapering downward, pruinose, subconcolorous; flesh and milk white, mild.

Height 1′–2′, breadth of pileus 2′–4′.

Grassy ground. Albany. July.

The pileus is sometimes irregular and eccentric, and the cuticle often cracks into areas. The stipe scarcely exceeds one inch in length. Allied to *L. hygrophoroides*, of which it may possibly prove to be a large variety.

7. LACTARIUS CAMPHORATUS *Bull.*

Pileus thin, fleshy, convex, then expanded or depressed, smooth, with a very small umbo or papilla, dark bay or brownish-red; lamellæ rather narrow, close, a little paler than the pileus, sometimes tinged with yellow; stipe nearly equal, smooth, subconcolorous, stuffed above, hollow below, flesh tinged with dull red; milk white, mild.

Height 2′–3′, breadth of pileus 8″–18″, stipe 2″–4″ thick.

Swamps. Sandlake. August.

I have not seen specimens with the pileus zonate. The dried specimens emit an agreeable odor, like that of *Cyperus inflexus*. In size and shape it is like *L. subdulcis*, from which it is distinct by its mild taste and darker color. Its color is like that of *L. rufus*, but that species is larger and intensely acrid.

8. LACTARIUS SUBDULCIS *Bull.*

Pileus thin, fleshy, plane or depressed, smooth, with a very small umbo or papilla, pale ochraceous-red, tinged with flesh-color; lamellæ close, more narrow toward the stipe, whitish, tinged with red or flesh-color; stipe nearly equal, rather slender, smooth, stuffed or hollow, concolorous, villous at the base; flesh whitish; milk white.

Height 2′–3′, breadth of pileus 8″–15″, stipe 2″–3″ thick.

Swamps and wet places in woods and fields.

Very common. July–October. The taste is at first mild, soon slightly acrid and woody.

9. LACTARIUS RUFUS *Scop.*

Pileus fleshy, at first convex and centrally depressed, then funnel-form, smooth, often with a small umbo, dull bay; lamellæ not broad, close, yellowish, tinged with red or flesh-color; stipe equal, smooth, stuffed, subconcolorous; flesh pinkish-tinged; milk white.

Height 3′–5′, breadth of pileus 2′–4′, stipe 3″–5″ thick.

Low swampy woods. North Elba. August. Taste intensely acrid.

10. LACTARIUS PLATYPHYLLUS *n. sp.*

Pileus fleshy, thick, depressed, with the margin spreading or decurved, sometimes subfunnel-form, smooth, yellowish flesh-color; lamellæ broad, not crowded, dull yellowish; stipe equal, stout, smooth, hollow, a little paler than the pileus; flesh white; milk white.

Height 4′–6′, breadth of pileus 4′–8′, stipe 6″–12″ thick.

Woods. North Elba. August.

A very large species, with an acrid taste. In color it resembles *L. chrysorheus*, from which it is distinct by its large size, zoneless pileus, unchanging milk, and very broad lamellæ which are 4″ wide. The pileus is perhaps viscid in moist weather. I have only seen it dry.

11. LACTARIUS CHRYSORHEUS *Fr.*

Pileus fleshy, not thick, convex, umbilicate, then expanded and centrally depressed or subfunnel-form, nearly smooth, yellowish flesh-colored, with brighter bands; lamellæ narrow, close, yellowish, stained with sordid reddish or brown spots where bruised; stipe equal, smooth, paler than the pileus, stuffed or hollow; flesh white, stained with yellow; milk white, quickly changing to yellow.

Height 2′–4′, breadth of pileus 2′–4′, stipe 4″–6″ thick.

Woods and groves. Common. North Elba, West Albany, etc. August–October.

The taste is acrid and woody. The colored bands of the pileus are sometimes wanting.

*12. LACTARIUS PIPERATUS *Scop.*

Pileus fleshy, thick, firm, smooth, at first convex and umbilicate or centrally depressed, at length funnel-form; lamellæ narrow, close, some of them forked, white; stipe short, stout, equal, firm, solid; flesh white; milk white.

Breadth of pileus 4′–6′, stipe 1′–2′ long, 8″–12″ thick.

Woods, especially under hemlock trees. Very common.

This is classed with the edible species, although its taste is acrid in the uncooked state.

13. LACTARIUS SORDIDUS *n. sp.*

Pileus fleshy, thick, firm, convex and centrally depressed, at length subfunnel-form, nearly smooth, pale brownish-yellow, the disk darker, with greenish hues; lamellæ very narrow, close, white or yellowish; stipe short, firm, equal or slightly tapering upward, hollow, concolorous, generally spotted; flesh white, with a pinkish tinge; milk white.

Height 2′–3′, breadth of pileus 2′–4′, stipe 4″–6″ thick.

Ground under spruce and balsam trees. North Elba. September. Taste acrid.

The pileus of this, like that of *L. piperatus*, is often soiled by dirt carried up in its growth. (Plate 2, figs. 10–12.)

14. LACTARIUS PYROGALUS *Fr.*

Pileus fleshy, expanded or depressed, smooth, often slightly zoned when moist, livid-gray; lamellæ narrow, not crowded, white or yellowish; stipe short, equal, stuffed or hollow, concolorous; flesh whitish; milk white.

Height 1′–2′, breadth of pileus 1′–2′, stipe 2″–4″ thick.

Ground in grassy places and borders of woods. Greenbush and Center. October. Taste acrid, woody.

15. LACTARIUS PLUMBEUS *Fr.*

Pileus fleshy, firm, convex and centrally depressed, then subfunnel-form, dry, minutely tomentose, varying in color, grayish-brown, pinkish-brown, or blackish-brown; lamellæ narrow, close, yellowish; stipe firm, equal, solid, paler than the pileus; flesh and milk white.

Height 1′–3′, breadth of pileus 1′–3′, stipe 3″–6″ thick.

In hemlock woods. Catskill Mountains. October. Taste acrid.

*16. LACTARIUS SUBTOMENTOSUS *B. & R.*

Pileus fleshy, not thick, convex, then expanded or slightly depressed, dry, minutely tomentose, brown, sometimes with a small umbo, often with the margin wavy-lobed; lamellæ distant, yellowish; stipe equal, rather long, stuffed, concolorous; flesh white; milk white.

Height 2′–4′, breadth of pileus 2′–3′, stipe 3″–4″ thick.

Woods and groves. Adirondack Mountains and Sandlake. July – October.

Pileus sometimes rugose-wrinkled.

17. LACTARIUS GRISEUS *n. sp.*

Pileus fleshy, thin, expanded and broadly umbilicate or subfunnel-form, most often with a small umbo or papilla, minutely tomentose, gray, becoming dingy-white with age; lamellæ narrow, close, white tinged with yellow; stipe rather long, equal or slightly tapering upward, brittle, stuffed above, hollow below, villous at the base; milk white.

Height 2′–3′, breadth of pileus 6′–18′, stipe 2′–3′ thick.

Swamps and low woods. Sandlake and Adirondack Mountains. August and September. Taste slightly acrid.

18. LACTARIUS GLYCIOSMUS *Fr.*

Pileus thin, fleshy, convex, then expanded or depressed, dry, minutely tomentose, cinereous, or grayish-brown, often with a small umbo and the margin distantly striate-marked; lamellæ narrow, close, yellowish; stipe short, nearly equal, pallid, stuffed; milk white.

Height 1′–2′, breadth of pileus 6′–18′ stipe 1′–2′.

Under pine and balsam trees on the ground or on rotten wood. Adirondack and Catskill Mountains. August – October. Taste acrid, unpleasant. Remarkable for, and easily distinguished by, its strong aromatic odor.

Genus — RUSSULA *Fr.*

Hymenophorum continuous with the vesiculose trama. Gills rigid, not milky; edge acute. Veil none. — *Berk. Outl.*

In size and shape the species of this genus resemble those of the preceding one, from which they are at once distinguished by the absence of a milky or colored juice. Some of them resemble the exannulate *Amanitæ*, from which the entire absence of a veil will serve to separate them.

SYNOPSIS OF THE SPECIES.

Stipe solid, cylindrical	1
Stipe stuffed, tapering or ventricose	2
Stipe hollow	3

1. RUSSULA DECOLORANS *Fr.*

Pileus fleshy, firm, smooth, viscid when moist, at length expanded or depressed, the margin thin, even or obscurely striate-tuberculate, color various, orange, yellow or grayish-

brown, tinged with purple, becoming paler with age; lamellæ rather close, venose-connected, some of them forked, white, then yellowish; stipe cylindrical, solid, spongy, whitish or pinkish; spores yellow.

Height 3′–5′, breadth of pileus 3′–5′, stipe 6″–15″ thick.

Pine woods. West Albany. October.

A large species, with a mild taste.

2. RUSSULA NITIDA *Fr.*

Pileus firm, fleshy, with a thin submembranaceous margin, at first convex, then expanded or depressed, viscid when moist, shining, the margin striate-tuberculate, color various, generally a dull or sordid purple, the disk darker; lamellæ close, subfree, narrowed toward the inner extremity, venose-connected, white, then yellow; stipe white, stuffed, equal or slightly tapering upward.

Height 2′–4′ breadth of pileus 2′–3′, stipe 4″–6″ thick.

Pine woods. West Albany. October.

Taste mild at first, then slightly disagreeable.

3. RUSSULA FŒTENS *Fr.*

Pileus fleshy, with a wide thin margin, hemispherical or convex, then expanded or depressed, viscid when moist, widely striate-tuberculate on the margin, dull pale yellow or straw-color; lamellæ rather broad, close, venose-connected, some of them forked, whitish; stipe nearly cylindrical, whitish, hollow; spores white; plant sometimes cæspitose.

Height 2′–3′, breadth of pileus 2′–4′, stipe 4″–8″ thick.

Ground in woods and open places. Common. Sandlake, Albany, etc. July and August.

Taste acrid, odor strong. When young, the lamellæ are studded with drops of moisture.

Genus—CANTHARELLUS *Fr.*

Hymenophorum inferior, confluent with the floccose trama.

Gills thick, swollen, somewhat branched. Edge obtuse.—*Berk. Outl.*

The species of this genus are easily separated from all others by the obtuse edge of the narrow, more or less branching or anastomosing gills.

SYNOPSIS OF THE SPECIES.

Plants terrestrial, stem central..... a.

a. Lamellæ abundantly anastomosing, stem short..... 1.

a. Lamellæ irregularly branched or sparingly anastomosing..... b.

b. Pileus luteous or egg-yellow 4
c. Stem thick, solid 2
c. Stem slender, stuffed or hollow 3
b. Pileus brownish-yellow 4
d. Hymenium yellow, not pruinose 5
d. Hymenium becoming lilac-pruinose 6
a. Lamellæ repeatedly forked, regular 7
e. Lamellæ orange-colored 8
e. Lamellæ white 9
Plant lignatile, stem lateral 10

1. CANTHARELLUS FLOCCOSUS *Schw.*

Pileus fleshy, elongated funnel-form or trumpet shape, floccose-squamose, ochraceous-yellow; lamellæ veinlike, close, much anastomosing above, long decurrent and subparallel below, concolorous; stipe very short, thick, rarely deeply rooting.

Height 2′–4′, breadth of pileus at the top 1′–3′.

Woods and their borders. Not rare. Utica, *Johnson*. Albany and Sandlake. July and August.

2. CANTHARELLUS CIBARIUS *Fr.*

Pileus fleshy, obconic, smooth, egg-yellow, slightly depressed; lamellæ thick, distant, more or less branching and anastomosing, concolorous; stipe firm, solid, often tapering downward, concolorous, flesh white.

Height 2′–4′, breadth of pileus 2′–3′, stipe 3″–6″ thick.

In open woods and grassy places. Common. July and August.

Edible. The smell of apricots is not always clearly perceptible in American specimens.

3. CANTHARELLUS MINOR *n. sp.*

Pileus fleshy, thin, convex, then expanded and depressed, egg-yellow; lamellæ very narrow, distant, sparingly branched, yellowish; stipe slender, subflexuous, equal, smooth, hollow or stuffed, concolorous.

Height 1′–2′, breadth of pileus 6′–12′.

In open woods. Greenbush. July.

4. CANTHARELLUS LUTESCENS *Bull.*

Pileus thin, fleshy, convex, umbilicate, brownish-floccose, yellowish; lamellæ very distant, sparingly branched, arcuate-decurrent, pale ochraceous; stipe slender, slightly tapering downward, smooth, shining, bright orange-tinted yellow, stuffed or hollow.

Height 2′–3′, breadth of pileus 8″–15″.

Mossy ground in woods. Catskill and Adirondack Mountains, also Sandlake. August–October.

This is regarded by some as a variety of *C. tubæformis*.

5. CANTHARELLUS INFUNDIBULIFORMIS *Fr.*

Pileus fleshy, thin, umbilicate, then funnel-form, nearly smooth, dingy yellow; lamellæ thick, distant, dichotomously branched, sometimes anastomosing, yellowish, then dull lilac, pruinose; stipe equal, slender, smooth, hollow, pale yellow.

Height 1′–2′, breadth of pileus about 1′.

In swamps. Sandlake. August.

6. CANTHARELLUS AURANTIACUS *Fr.*

Pileus fleshy, obconic, nearly plane above, smooth or minutely tomentose, dull orange with the disk usually brownish, the margin decurved and sometimes yellowish; lamellæ narrow, close, repeatedly forked, orange, sometimes yellowish; stem inequal, generally tapering upward, colored like the pileus; flesh yellowish, taste mild.

Height 2′–3′, breadth of pileus 1′–3′, stem 2″–4″ thick.

Ground and very rotten logs in woods or in fields. Common.

7. CANTHARELLUS DICHOTOMUS *n. sp.*

Pileus fleshy, at first broadly convex, then expanded, obconic with a decurved margin, acutely umbonate, smooth or slightly silky, shining, steel-blue; lamellæ close, rather broad, repeatedly forked, white; stem long, soft, solid, silky, slightly tapering upward, whitish, usually tinged with the color of the pileus; flesh whitish.

Height 3′–6′, breadth of pileus 6″–12″, stem 2″–3″ thick.

Damp mossy ground in woods. North Elba. August.

The white mycelium at the thick base of the stem is abundant, and invests the surrounding mosses so closely that it is difficult to pluck the plant entire without taking with it a tuft of moss. The small but prominent acute umbo is rarely wanting.

Var. *brevior* is a smaller form, occurring in open, mossy places. It is grayish-brown with the umbo wanting or reduced to an acute papilla and the shorter stem equal and scarcely silky. North Elba and Catskill Mountains. August–October. (Plate 4, figs. 6–9.)

8. CANTHARELLUS CRISPUS *Fr.*

Pileus thin, expanded, villous or pubescent, yellowish-brown, often lobed and cæspitose; lamellæ narrow, close,

dichotomously branched, sometimes anastomosing, crisped, glaucous-green; stipe lateral or none.

Pileus 4′–8′ broad.

Trunks of trees, etc. Common. September–November.

Genus — MARASMIUS *Fr.*

Hymenophorum confluent with the stem, though different in texture, descending into the floccose trama. Hymenium dry, covering the interstices as well as the gills. Gills or folds thick, tough and subcoriaceous. Edge acute.—*Berk. Outl.*

The tough subcoriaceous texture of the plant, and the dry, continuous hymenium are the chief characters in this genus. Specimens of these plants are easily preserved, being less fleshy, putrescent and perishable than the preceding. Most of the species grow upon wood, decaying twigs or leaves.

SYNOPSIS OF THE SPECIES.

Stem naked, solid 1
Stem velvety-tomentose or hairy ..... a
a. Lamellæ narrow, crowded 2
a. Lamellæ not crowded 3
Stem smooth, shining, hollow ..... b
b. Pileus even; plant fetid 4
b. Pileus distantly sulcate-striate c
c. Pileus whitish ..... d
d. Lamellæ attached to a free collar 5
d. Lamellæ attached to the stem 6
c. Pileus subrufous ..... e
e. Pileus expanded 7
e. Pileus campanulate or convex 8

*1. MARASMIUS OREADES *Bolt.*

Pileus fleshy, firm, smooth, convex, then expanded, often irregular and broadly subumbonate, watery fulvous when moist, whitish or cream-colored when dry; lamellæ broad, distant, free, whitish or cream-colored; stipe equal, smooth, solid, concolorous, sometimes rooting.

Height 2′–3′, breadth of pileus 1′–2′.

Grassy ground and pastures. May–October. Very common.

The plant is described as growing in rings. I have never seen it forming a complete ring, but it often forms a part of one. Edible.

2. MARASMIUS VELUTIPES *B. & C.*

Pileus thin, submembranaceous, smooth, convex or expanded, grayish-rufous when moist, cinereous when dry; lamellæ very narrow, crowded, whitish or gray; stipe slender,

equal, hollow, clothed with a dense grayish velvety tomentum; plant often cæspitose.

Height 3′–5′, breadth of pileus 8″–18″.

Woods. Sandlake and Adirondack Mountains. July–October.

*3. MARASMIUS PLANCUS *Fr.*

Pileus thin, expanded or slightly depressed, sometimes uneven and striatulate, dull rufous when moist, paler when dry, the disk often a little darker; lamellæ distant, rounded at the inner extremity and separating from the stem, dull yellowish; stipe firm, often compressed, especially at the top, stuffed or hollow, concolorous, whitish-pubescent.

Height 2′–4′, breadth of pileus about 1′.

Woods. Common. June–August.

4. MARASMIUS SCORODONIUS *Fr.*

Pileus thin, submembranaceous, expanded, subrugulose, grayish-rufous, the disk a little darker; lamellæ very narrow, close, rounded at the inner extremity, subfree, whitish or cream-colored; stipe slender, tough, smooth, shining, hollow, reddish-brown, paler at the top; plant with a fetid odor.

Height 1′–2′, breadth of pileus 4″–6″.

On sticks and decaying wood. Sandlake. August.

The odor resembles that of skunk-cabbage.

*5. MARASMIUS ROTULA *Fr.*

Pileus membranaceous, dry, convex or expanded, umbilicate, smooth, radiate-sulcate, whitish; lamellæ few, distant, broad, whitish, attached to a free collar surrounding the stem; stipe slender, tough, smooth, shining, black, paler at the top, hollow.

Height 1′–2′, breadth of pileus 3″–6″.

On sticks, dead leaves, etc. Common. June–September.

6. MARASMIUS SUBVENOSUS *n. sp.*

Pileus membranaceous, dry, convex, subumbilicate, radiate-sulcate, smooth, white or yellowish; lamellæ few, distant, sometimes branched and subvenose, concolorous, attached to the stipe; stipe tough, smooth, shining, brown, paler above, hollow.

Height 8″–12″, breadth of pileus 2″–4″.

On dead herbaceous stems and leaves. Center. October.

Closely related to *M. epiphyllus*, from which it differs in its smooth stem. (Plate 6, figs. 15–21.)

7. MARASMIUS ANDROSACEUS *L.*

Pileus membranaceous, convex or expanded, subumbilicate, obscurely striate, brownish-red; lamellæ narrow, rather numerous, attached, whitish or subconcolorous; stipe tough, smooth, shining, black, whitish at the top, hollow.

Height 1′–2′, breadth of pileus 3″–5″.

On sticks and leaves in woods, especially of pine. June-September.

8 MARASMIUS CAMPANULATUS *n. sp.*

Pileus membranaceous, convex or campanulate, dry, smooth, radiate-sulcate, ochraceous-red, the disk a little darker; lamellæ few, distant, broad, narrowed toward the stem, free or slightly attached, whitish; stipe tough, smooth, shining, blackish-brown, hollow.

Height 1′–2′, breadth of pileus 3″–6″.

Dead leaves, etc., in woods. Common. July and August.

Allied to *M. siccus* but differing in the character of the lamellæ and the paler stipe.

Genus—LENTINUS *Fr.*

Coriaceous, fleshy and tough, at length hard, tough, dry.

Gills tough. Edge acute, toothed. Hymenophorum homogeneous with the stem.—*Berk. Outl.*

The firm tough fleshy pileus, and the thin serrated lamellæ are the prominent characters of this genus. The stipe is often eccentric or lateral. The species generally grow on wood, in open places, persist for some time and become hard when dry.

SYNOPSIS OF THE SPECIES.

Pileus squamose-spotted..... 1
Pileus smooth..... 2

1. LENTINUS LEPIDEUS *Fr.*

Pileus fleshy, firm, convex or expanded, nearly white, spotted with dark brown appressed scales; lamellæ rather broad, not crowded, attached, slightly emarginate and decurrent, white, the edge rough, eroded or torn; stipe firm, solid, equal or tapering downward, more or less scaly, whitish, sometimes eccentric, straight or curved.

Height 2′–4′, breadth of pileus, 3′–5′, stipe 4″–6″ thick.

Growing from crevices in old stumps, logs, etc., exposed to the full rays of the sun. Common. Albany, Sandlake, North Elba. June–August. Poughkeepsie. *Gerard.*

2. LENTINUS COCHLEATUS *Fr.*

Pileus fleshy, firm, expanded, irregular, sublobed, often umbilicate or depressed, smooth, dull grayish-rufous; lamellæ close, rather broad, serrated, dull flesh-colored; stipe central, eccentric or lateral, solid, slightly narrowed downward, distantly sulcate; plant densely cæspitose; pilei often growing together.

Height 1′–2′, breadth of pileus 6′–12′.

Decaying wood. North Elba. August.

Genus—BOLETUS *Fr.**

Hymenophorum quite distinct from the hymenium. Trama obsolete. Hymenium lining the cavity of tubes separable from one another and from the hymenophorum.—*Berk. Outl.*

The species of this genus are numerous, often large and fleshy, and readily known by the tubes being easily separable from the pileus. The flesh is soft and juicy and is very liable to be attacked by insects. In some species it changes color when bruised or cut.

SYNOPSIS OF THE SPECIES.

Pileus viscid when moist ..... a.
a. Tubes attached to the stem, without a stipal cavity ..... b.
b. Stem annulate ..... c.
c. Pileus scaly ..... d.
d. Stem long (4′–6′) ..... 1.
d. Stem short (1′–3′) ..... 2.
c. Pileus smooth ..... e.
e. Tubes small, simple ..... f.
f. Pileus yellow ..... 3.
f. Pileus bay ..... 4.
e. Tubes ample, compound ..... 5.
b. Stem not annulate ..... g.
g. Pileus yellow, flesh yellow ..... 6.
g. Pileus pallid, flesh white ..... 7.
g. Pileus white, flesh white ..... 8.
a. Tubes with a stipal cavity ..... 9.
Pileus not viscid ..... h.
h. Tubes with a stipal cavity ..... i.
i. Flesh becoming blue where cut or bruised ..... k.
k. Tubes one color ..... 10.
k. Tubes with the mouth differently colored ..... 11.
i. Flesh not turning blue ..... l.
l. Tubes pale flesh-color 12
l. Tubes yellow 13
h. Tubes attached, with no stipal cavity ..... m
m. Pileus distinctly tomentose ..... n.
n. Pileus purplish-brown ..... 14.
n. Pileus bright pinkish-red ..... 15.
n. Pileus blackish-brown ..... 16.
m. Pileus smooth, or most minutely tomentose ..... o.

* This genus belongs to the order *Polyporei*.

c. Stem reticulated.....
c. Stem not reticulated.....
p. Tubes pale yellow.....
p. Tubes fulvous, sinuate.....

1. BOLETUS SPECTABILIS *n. sp.*

Pileus broadly convex, viscid when moist, squamose, bright red, with brownish scales, sometimes pink with brownish-yellow scales; tubes convex, attached, large, angular, ochraceous; stipe nearly equal, solid, annulate, yellow stained with red or subconcolorous; veil membranaceous, red, viscid; flesh yellow; spores dark ferruginous.

Height 4′–6′, breadth of pileus 3′–5′, stipe 6″ thick.

Mossy swamps. North Elba. August. A large showy species.

The scales of the pileus are large and distant, except on the disk. (Plate 6, figs. 1–3.)

2. BOLETUS PICTUS *n. sp.*

Pileus broadly convex or expanded, viscid when moist, at first covered with a red tomentum, which soon breaks up into rather small close scales; tubes plane or convex, attached, large, angular, yellow; stipe equal, solid, annulate, subconcolorous; flesh yellowish.

Height 1.5′–3′, breadth of pileus 2′, stipe, 3″–5″ thick.

Woods and borders of swamps. Common. July and August.

The red tomentose scales give it a pretty spotted appearance. The stipe is slightly marked at the top by the decurrent walls of the tubes.

3. BOLETUS LUTEUS *L.*

Pileus convex, sometimes expanded, smooth, dull yellow, when moist coated with a brownish gluten, streaked or obscurely reticulated with brownish-yellow; tubes plane or convex, short, attached, minute, subrotund, ochraceous yellow; stem equal, annulate, solid, scabrous with small reddish or brown dots; flesh whitish, inclining to dull yellow; annulus brownish.

Height 2′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Sandy soil. Center. October.

Our specimens, in color, vary somewhat from the type, and have the stem dotted its whole length. Edible.

4. BOLETUS CLINTONIANUS *n. sp.*

Pileus thick, convex, viscid when moist, smooth, shining bay-red, or chestnut-color; tubes nearly plane, attached, subdecurrent, small, nearly round, pale yellow, becoming darker

stipe equal, stout, solid, annulate, subconcolorous, sometimes stained with yellow, slightly reticulated at the top; annulus and flesh yellow; plant sometimes cæspitose.

Height 4′–6′, breadth of pileus 3′–5′, stipe 6″–9″ thick.

Low woods. North Elba. August. A noble species.

Large specimens sometimes have a submarginal groove or concavity on the pileus. Dedicated to Hon. G. W. Clinton, than whom there is no more ardent lover of botany nor more devoted friend of science. (Plate 5, figs. 1–5.)

5. BOLETUS ELBENSIS *n. sp.*

Pileus convex, sometimes gibbous, smooth, viscid when moist, dingy-gray tinged with flesh-color, obscurely streaked and reticulated with darker hues; tubes nearly plane, attached, subdecurrent, rather large, angular, compound, whitish, becoming ochraceous-brown; stipe equal, solid, annulate, concolorous below, white above the annulus, the top slightly marked by the decurrent walls of the tubes; flesh white.

Height 4′–5′, breadth of pileus 2′–4′, stipe 4″–6″ thick.

Low ground in woods and their borders. North Elba. August.

Related to *B. laricinus*, but our plant is not at all squamose, nor does it have the stem pitted. The pileus, from its markings, sometimes has the appearance of being pitted or slightly eaten on its surface by insects.

6. BOLETUS FLAVIDUS *Fr.*

Pileus convex or expanded, viscid when moist, smooth, yellow; tubes plane or slightly convex, attached, rather large, angular, compound, honey-yellow; stipe rather slender, nearly equal, solid, dotted, not annulate, yellow or brownish; flesh whitish, inclining to yellow.

Height 2′–3′, breadth of pileus 2′, stipe 2″–4″.

Woods and open places. Common. August–October.

Sometimes the pileus is dotted and streaked with red. The veil is very fugacious, so that the stipe is seldom found with an annulus. Sometimes drops of juice or moisture are seen on the tubes and stipe. These turn black with age. The fingers are stained in handling the plant. Edible.

7. BOLETUS COLLINITUS *Schæff.*

Pileus convex, viscid when moist, grayish-white, more or less tinged with rusty-red or yellow; tubes plane, attached, not large, some of them, at least, divided, whitish, becoming yellow; stipe equal, solid, firm, not annulate, whitish, dotted with reddish-brown; flesh white.

Height 2′–3′, breadth of pileus 2′–3′, stipe 3″–6″ thick.

In pastures and borders of woods. Common. Albany, Sandlake, etc. September and October. Edible.

The plant is sometimes cæspitose.

8. BOLETUS ALBUS *n. sp.*

Pileus fleshy, smooth, convex, viscid when moist, white; tubes plane, attached, subrotund, medium size, compound, ochraceous-yellow; stipe equal or slightly tapering downward, white, tinged with pink, dotted, not annulate, slightly reticulated at the top; flesh white.

Height 3′–4′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Woods. Adirondack Mountains. August.

This species differs from *B. collinitus* in its white pileus, larger and differently colored tubes, etc.

*9. BOLETUS SCABER *Fr.*

Pileus convex, viscid when moist, variable in color, brick red, gray or brown; tubes convex, depressed about the stipe or free, small, rotund, white, then grayish-yellow; stem solid, slightly tapering upward, exannulate, white, rough with small, blackish, fibrous scales.

Height 4′–6′, breadth of pileus 3′–5′, stipe 4″–6″ thick.

Borders of woods and open places. Common. June–September

Edible. Variable. It sometimes attains a very large size, exceeding the dimensions given.

10. BOLETUS CYANESCENS *Bull.*

Pileus broadly convex or expanded, dry, densely yellowish-tomentose or floccose-squamose; tubes convex, free, small, round, whitish, then yellow; stipe firm, stuffed or hollow, tomentose-pruinose, rapidly tapering toward the top, ventricose-bulbous at the base, concolorous; flesh white, quickly turning blue and purple when cut or bruised.

Height 3′–5′, breadth of pileus 2′–4′.

Banks by roadsides and in woods. Sandlake and Adirondack Mountains. August and September.

The tomentum of the pileus generally breaks up into substellate areas or scales. The exterior of the stem is firm, the interior soft or spongy. When the flesh is bruised the purple tints generally appear first, then the blue.

11. BOLETUS VERMICULOSUS *n. sp.*

Pileus broadly convex, dry, smooth or most minutely tomentose, grayish-brown, tinged with red; tubes plane or

slightly convex, free, small, round, yellow, with the mouth brownish-orange, becoming almost black; stipe equal, solid, smooth, paler than the pileus; flesh whitish, changing to blue, as also do the tubes, when cut or bruised.

Height 3′–4′, breadth of pileus 3′–4′, stipe 6″ thick.

Ground in woods and open places. New Baltimore and Sandlake. July and August.

Near *B. luridus*. I have always found this plant much infested by the larvæ of insects, so that it is with difficulty a specimen can be dried before they destroy it.

*12. BOLETUS FELLEUS *Bull.*

Pileus broadly convex, soft, smooth, pale grayish-brown or brick-red, the margin thick; tubes convex, depressed around the stipe, very long, angular, not large, pale flesh-color; stipe equal or slightly tapering upward, smooth, solid, subconcolorous, reticulated above; flesh white, or pale flesh-color; spores rose-color.

Height 4′–6′, breadth of pileus 3′–5′, stipe 6″–12″ thick.

In pine or hemlock woods and groves. Common. July and August.

Our plant is a large and fleshy one, not agreeing closely with the published descriptions.

13. BOLETUS EDULIS *Bull.*

Pileus thick, broadly convex, smooth, grayish-red; tubes convex, nearly free, long, minute, round, yellow, at length tinged with green; stipe equal, firm, solid, dull ochraceous, finely reticulated its whole length; flesh whitish, not changing color.

Height 6′, breadth of pileus 4′–6′, stipe 1′ thick.

Banks by roadsides. North Elba. August.

It appears to be rare. Edible.

14. BOLETUS SUBTOMENTOSUS *L.*

Pileus broadly convex, or expanded, sometimes slightly umbonate, dry, squamulose-tomentose, pinkish-brown; tubes convex, attached or slightly decurrent, very large, angular, compound, yellow; stipe equal, solid, yellowish-brown, paler at the top and marked with the decurrent walls of the tubes; flesh whitish, tinged with yellow, unchangeable; spores pale ochraceous with a greenish tinge.

Height 3′–5′, breadth of pileus 3′–4′, stipe 3″–6″ thick.

Low mossy ground in woods. North Elba and Sandlake. August and September.

Edible. The pileus varies in the intensity of the color and the density of the tomentum.

15. BOLETUS PALUSTER *n. sp.*

Pileus fleshy, rather thin, convex, then expanded or slightly depressed, with a decurved margin, subumbonate, dry, floccose-tomentose, bright pinkish-red; tubes large, angular, slightly decurrent, formed by wider radiating lamellæ and more narrow transversely connecting and anastomosing dissepiments, yellow, becoming ochraceous; stem slender, solid, nearly smooth, red, yellowish at the top and marked with the slightly decurrent walls of the tubes; spores elliptical, dull pinkish or flesh-colored, $\frac{1}{1000}'$ long.

Height 2′–3′, breadth of pileus 1′–2′, stem 2″–3″ thick.

Wet places and swamps among mosses. North Elba. August. (Plate 6, figs. 4–7.)

Allied to *Paxillus porosus* Berk., with which, perhaps, it ought to form a new genus intermediate between Paxillus and Boletus, and from which it differs in its more slender habit, central stem, floccose-tomentose pileus, larger pores and elliptical spores.

16. BOLETUS STROBILACEUS *Scop.*

Pileus convex, densely clothed with a blackish tomentum which breaks up into thick erect tufts or scales; tubes plane or slightly convex, white becoming darker, not large, angular, stem solid, usually scaly and colored like the pileus, whitish at the top; flesh white, changing to red then to black when wounded.

Height 3′–6′, breadth of pileus 2′–4′, stem 4″–6″ thick.

Ground in woods and open places. Common. Buffalo, *Clinton.* Utica, *Johnson.* Poughkeepsie, *Gerard.* Albany and Sandlake. July and August.

17. BOLETUS RETIPES *B. & C.*

Pileus thick, firm, broadly convex, dry, smooth or very minutely tomentose, grayish-brown; tubes concave or plane, rarely convex, attached, small, round, bright yellow; stipe equal, solid, yellow, strongly reticulated its whole length, the reticulations formed by the anastomosing of distinct firm vein-like ridges; flesh yellow, not changing color.

Height 3′–5′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Banks by roadsides. North Elba. August.

B. retipes is said to have the pileus yellow, and the stem reticulated nearly to the base—particulars which do not agree with our specimens. It is possible that future inves

tigation may prove our plant to be a distinct species; but at present I prefer to consider it only a variety of the above mentioned species.

18. Boletus auriporus *n. sp.*

Pileus broadly convex, dry, most minutely tomentose, grayish-brown, sometimes tinged with red; tubes plane or nearly so, attached, their walls slightly decurrent on the stem, medium size, round, bright golden yellow; stipe equal, firm, solid, smooth; flesh white, unchangeable.

Height 2′–4′, breadth of pileus 2′–3′, stipe 3″–5″ thick.

Banks by roadsides and open woods. North Elba and New Baltimore. July and August.

19. Boletus Sistotrema *Fr.*

Pileus convex or expanded, nearly smooth, dry, reddish-tawny; tubes plane, attached, sinuate, except the marginal ones, bright tawny or cinnamon-color; stipe slender, equal, solid, concolorous; flesh white or yellowish, not changing color.

Height 1′–2′, breadth of pileus scarcely 1′, stipe 1″–2″ thick.

Woods and bushy places. Albany. September and October. A very small species.

New Stations of Rare Plants and Notable Varieties.

Thalictrum anemonoides *Michx.*

A form with double flowers, was found near Poughkeepsie by Miss Shattuck. *Gerard.*

Alyssum calycinum *L.*

Newark, Wayne county. *E. L. Hankenson.*

Lepidium campestre *L.*

New Baltimore. *Howe.*

Dianthus Armeria *L.*

Abundant throughout the eastern part of Long Island.

Impatiens pallida *Nutt.*

A variety with spotless flowers. Newark. *Hankenson.*

TRIFOLIUM PROCUMBENS *L.*

This is not rare in the eastern part of Long Island. I have never seen it in the vicinity of Albany, where *T. agrarium* is common, and apparently becoming more plentiful every year.

ANETHUM FŒNICULUM *L.*

Newark. *Hankenson.*

ARALIA QUINQUEFOLIA *L.*

Helderberg Mountains. This valuable plant has now become so rare that I know but one station in this part of the State where it still lingers.

GALIUM MOLLUGO *L.*

Danube, Herkimer county. *Austin.*

EUPATORIUM PURPUREUM *L.*

A form with opposite leaves. Poughkeepsie. *Gerard.*

ACHILLEA MILLEFOLIUM *L.*

A pink flowered form. Trenton Falls. *Mrs. E. E. Atwater.*

ONOPORDON ACANTHIUM *L.*

Greenport and Shelter Island.

TARAXACUM DENS-LEONIS *Desf.*

Two heads on one peduncle. Poughkeepsie. *Gerard.*

CAMPANULA ROTUNDIFOLIA *L.*

With white flowers. Mount Wallface. Adirondack Pass.

THYMUS SERPYLLUM *L.*

Cemetery at Williamsville, Erie county. *Clinton.*

POLEMONIUM CÆRULEUM *L.*

Found around Sand Pond in the western part of Ulster county, by Rev. A. P. Van Gieson. *Gerard.*

SABBATIA STELLARIS *Pursh.*

With white flowers. Greenport, *Mrs. E. E. Atwater.*

CHENOPODIUM MURALE *L.*

Bath Island, Niagara Falls. *Clinton.*

PARIETARIA PENNSYLVANICA *Muhl.*

A dwarf form two or three inches high. Helderberg Mountains.

LEMNA TORREYI *Austin.*
Riverhead, Long Island.

SPIRANTHES GRAMINEA *Lindl.*
Greenport. *Mrs. E. E. Atwater.*

CAREX ALATA *Torr.*
Riverhead, Long Island.

CAREX GRAYII *Carey.*
New Baltimore. *Howe.* The specimens are remarkable for having the perigynia scabrous-pubescent.

WOODSIA GLABELLA *R. Br.*
Crevices of rocky ledges at Lake Avalanche and in the pass north of it. Found before in the State at Little Falls only.

In concluding this report, I would express my thanks to the botanists who have so generously aided me by furnishing specimens and information; also to Rev. M. A. Curtis, who has rendered much assistance in the determination of fungi. The continued co-operation of botanists is earnestly solicited.

When no name is added to the reported station or stations, the plant has been found therein by the writer. Dates signify the time of the occurrence of the plant, so far as determined by the observation of myself or correspondents.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January* 8, 1870.

1869 1869

PLATES AND EXPLANATIONS.

PLATE I.

Lycoperdon giganteum Batsch.

Page 51.

Fig. 1. A specimen of medium size.

Hygrophorus nitidus B. & R.

Page 114.

Fig 2. A young plant
" 3. A specimen showing the upper surface of the pileus.
" 4. A specimen showing more of the lower surface.
" 5. Vertical section of a pileus.
" 6. Transverse section of a stem.

Agaricus sarcophyllus Peck.

Page 96.

Fig. 7. A specimen with the pileus unexpanded.
" 8. A small specimen, showing the lower surface of the pileus.
" 9. A larger specimen, showing the lower surface.
" 10. Vertical section of a pileus.
" 11. Transverse section of a stem.

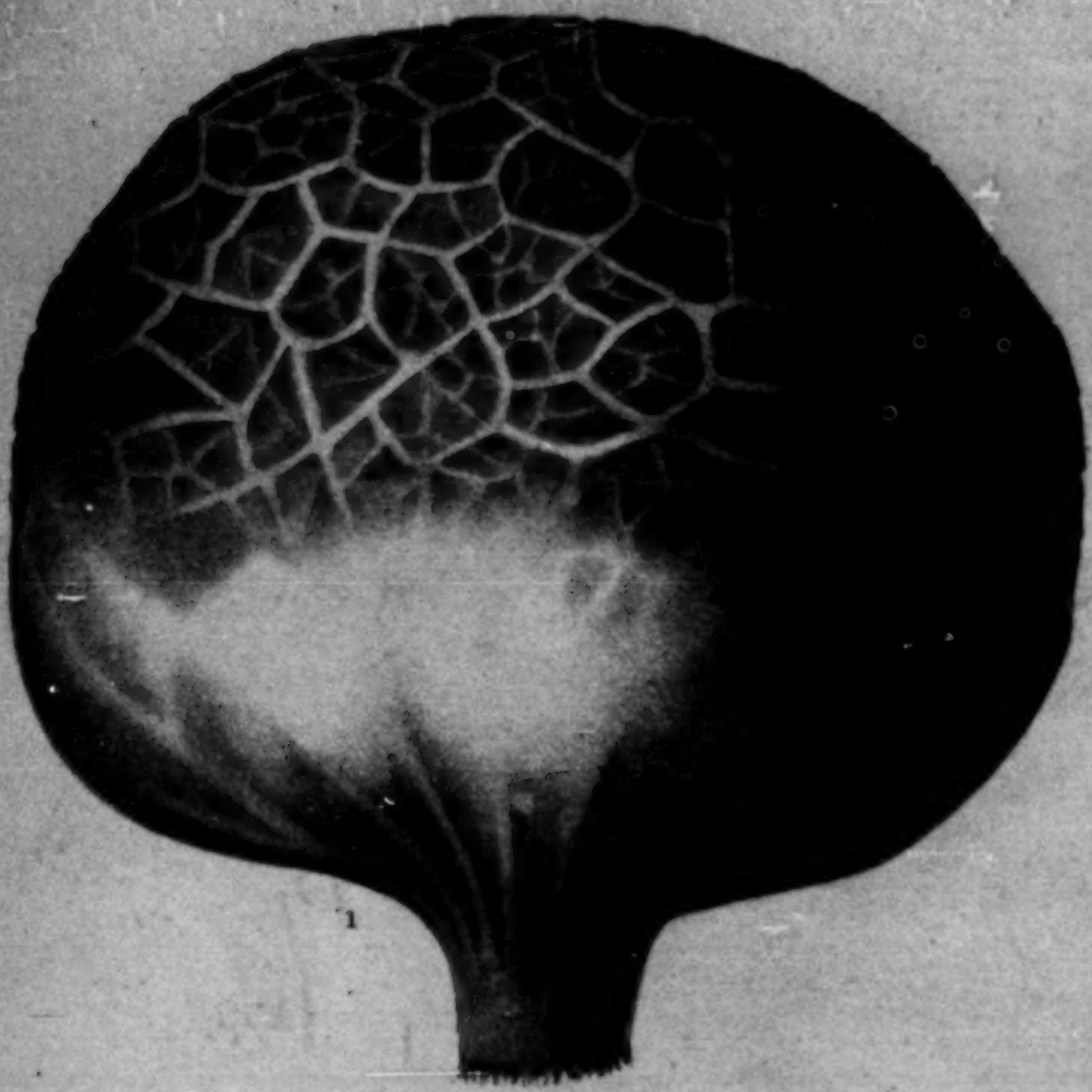

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PLATE II.

AGARICUS CURVO-MARGINATUS Peck.

Page 92.

FIGS. 1, 2. Lateral view of two specimens of unequal length.
FIG. 3. A specimen showing more of the lower surface of the pileus.
" 4. Vertical section of a pileus.
" 5. Transverse section of a stem.

AGARICUS STRICTIOR Peck.

Page 93.

FIG. 6. A specimen showing the upper surface of the pileus.
" 7. A specimen showing the lower surface.
" 8. Vertical section of a pileus.
" 9. Transverse section of a stem.

LACTARIUS SORDIDUS Peck.

Page 112.

FIG. 10. A specimen showing the upper surface of the pileus.
" 11. A specimen showing more of the lower surface.
" 12. Vertical section of a pileus.

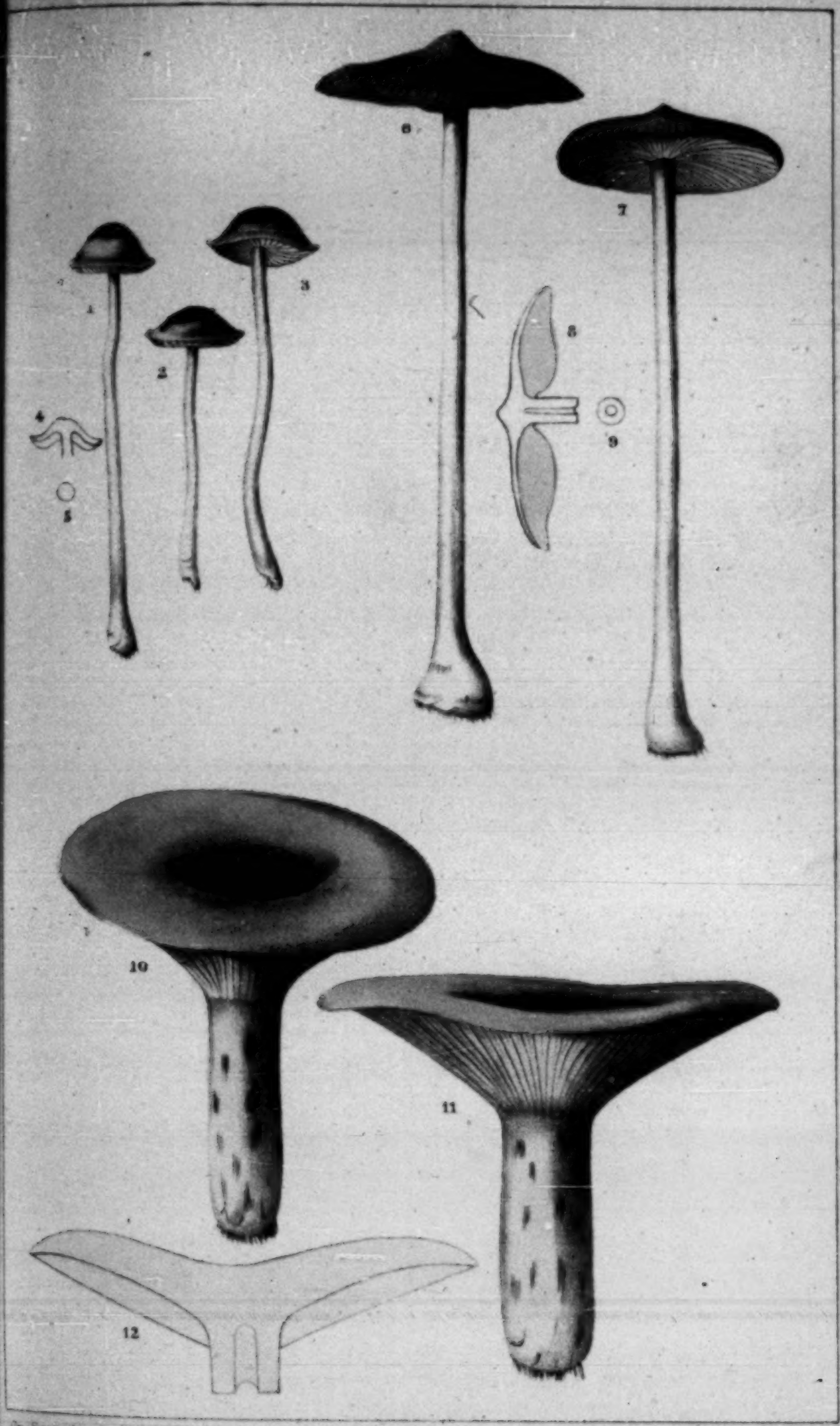

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PLATE III.

Cortinarius squamulosus Peck.

Page 198.

Fig. 1. A specimen with the pileus but little expanded.
" 2. Part of a specimen with the pileus more expanded.
" 3. Part of a vertical section of a pileus.

Agaricus Johnsonianus Peck.

Page 90.

Fig. 4. A specimen of medium size.
" 5. A specimen of small size.
" 6. Vertical section of a pileus.

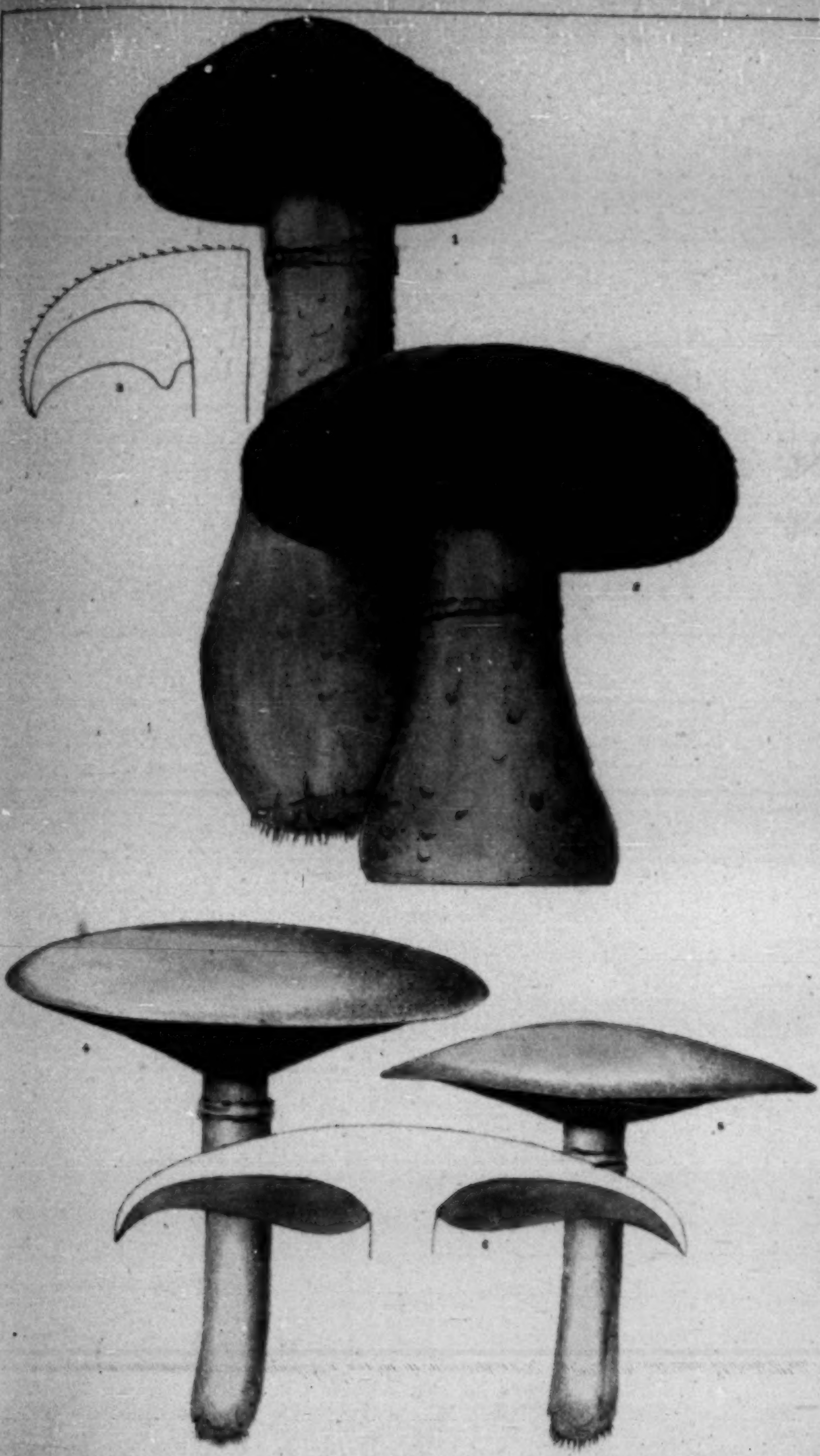

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PLATE IV.

AGARICUS SOLIDIPES Peck.

Page 101.

FIG. 1. A specimen of small size.
" 2. A larger specimen, showing the lower surface of the pileus.
" 3. Upper part of an old plant with the cuticle of the pileus broken into scales
" 4. Vertical section of a small pileus
" 5. Transverse section of a stem.

CANTHARELLUS DICHOTOMUS VAR. BREVIOR Peck.

Page 123.

FIG. 6. A specimen showing the upper surface of the pileus.
" 7. A specimen showing more of the lower surface.
" 8. Vertical section of a pileus.
" 9. Lines representing the dichotomous branching of the lamellæ.

CORTINARIUS CASTANEOIDES Peck.

Page 111.

FIG. 10. A specimen with the pileus partly expanded.
" 11. A specimen with the pileus expanded.
" 12. A cluster of small plants.
FIGS. 13, 14. Vertical sections of pilei.
FIG. 15. Transverse section of a stem.

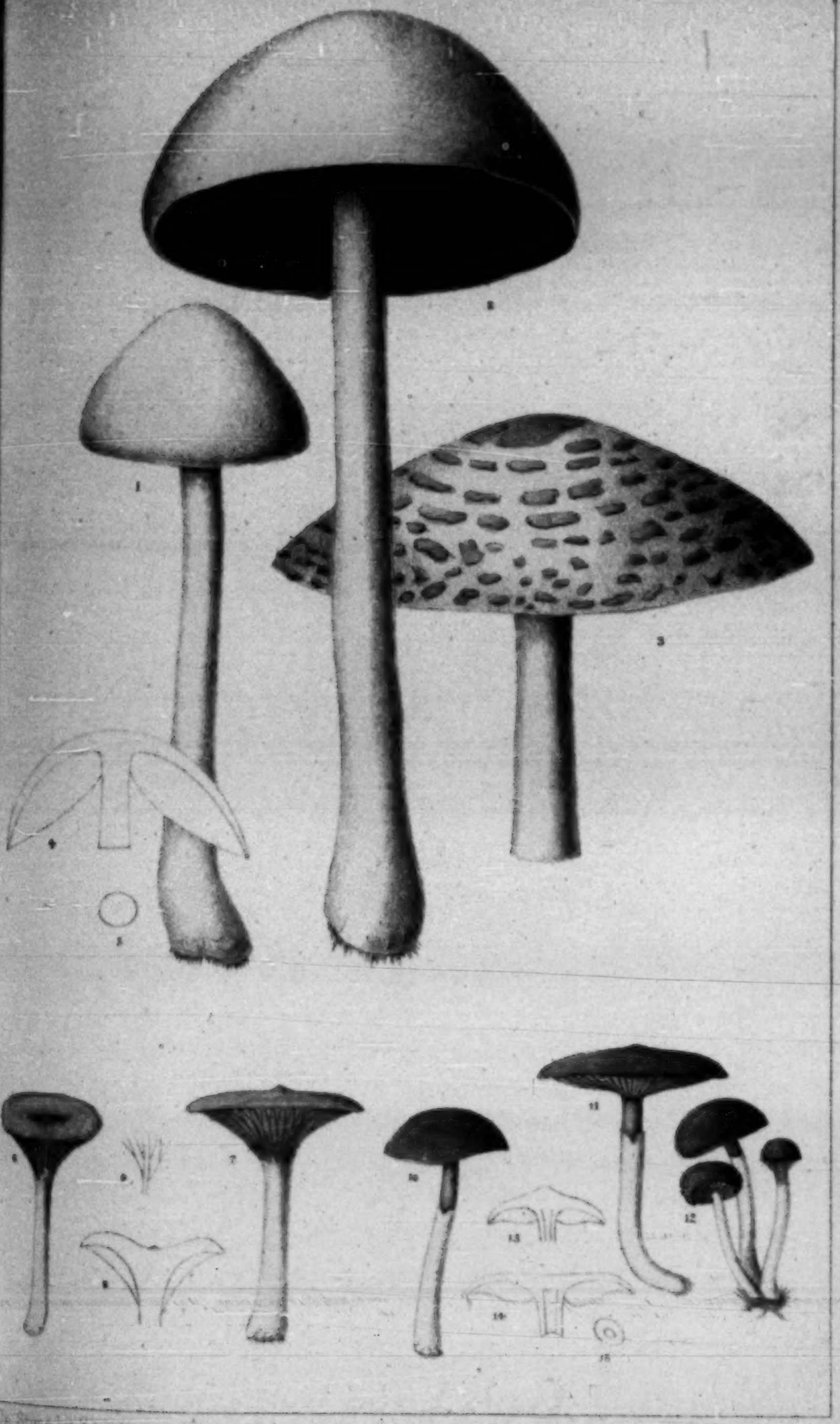

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PLATE V.

Boletus Clintonianus Peck.

Page 28.

Fig. 1. A young plant with the tubes concealed by the veil.
" 2. A specimen of small size.
" 3. A specimen of medium size, showing the marginal depression of the pileus
" 4. Part of a vertical section of a pileus.
" 5. Mouths of tubes slightly magnified.

Agaricus palustER Peck.

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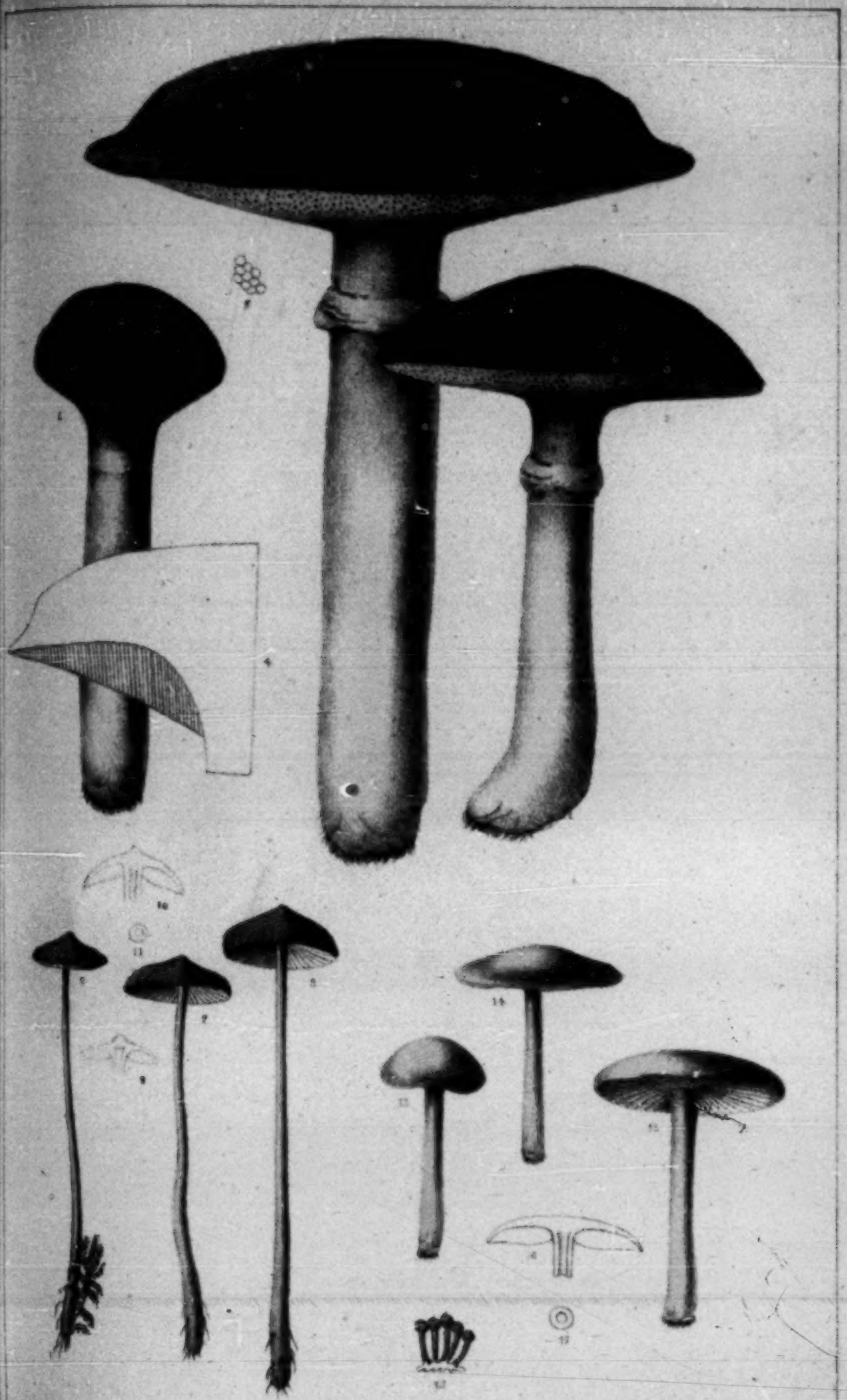
Fig. 6. A specimen of small size, with the pileus expanded.
Figs. 7, 8. Specimens of medium size, with the pileus less expanded.
" 9, 10. Vertical sections of pilei.
Fig. 11. Transverse section of a stem.

Agaricus velutipes Curt.

Page 79.

Fig. 12. A cluster of very young plants.
Figs. 13, 14. Specimens showing the upper surface of the pileus.
Fig. 15. A specimen showing the lower surface of the pileus
" 16. Vertical section of a pileus.
" 17. Transverse section of a stem.



on Stone by Swinton. Lith of Weed, Parsons & Co. Albany N.Y.

PLATE VI.

Boletus spectabilis Peck.

Page 28.

Fig 1. A young plant with the tubes concealed by the veil.
" 2. A specimen of medium size.
" 3. Vertical section of a small pileus.

Boletus palustER Peck.

Page 32.

Fig. 4. A very young plant.
" 5. A specimen showing the upper surface of the pileus.
" 6. A specimen showing the lower surface.
" 7. Vertical section of a pileus.

Agaricus latifolius Peck.

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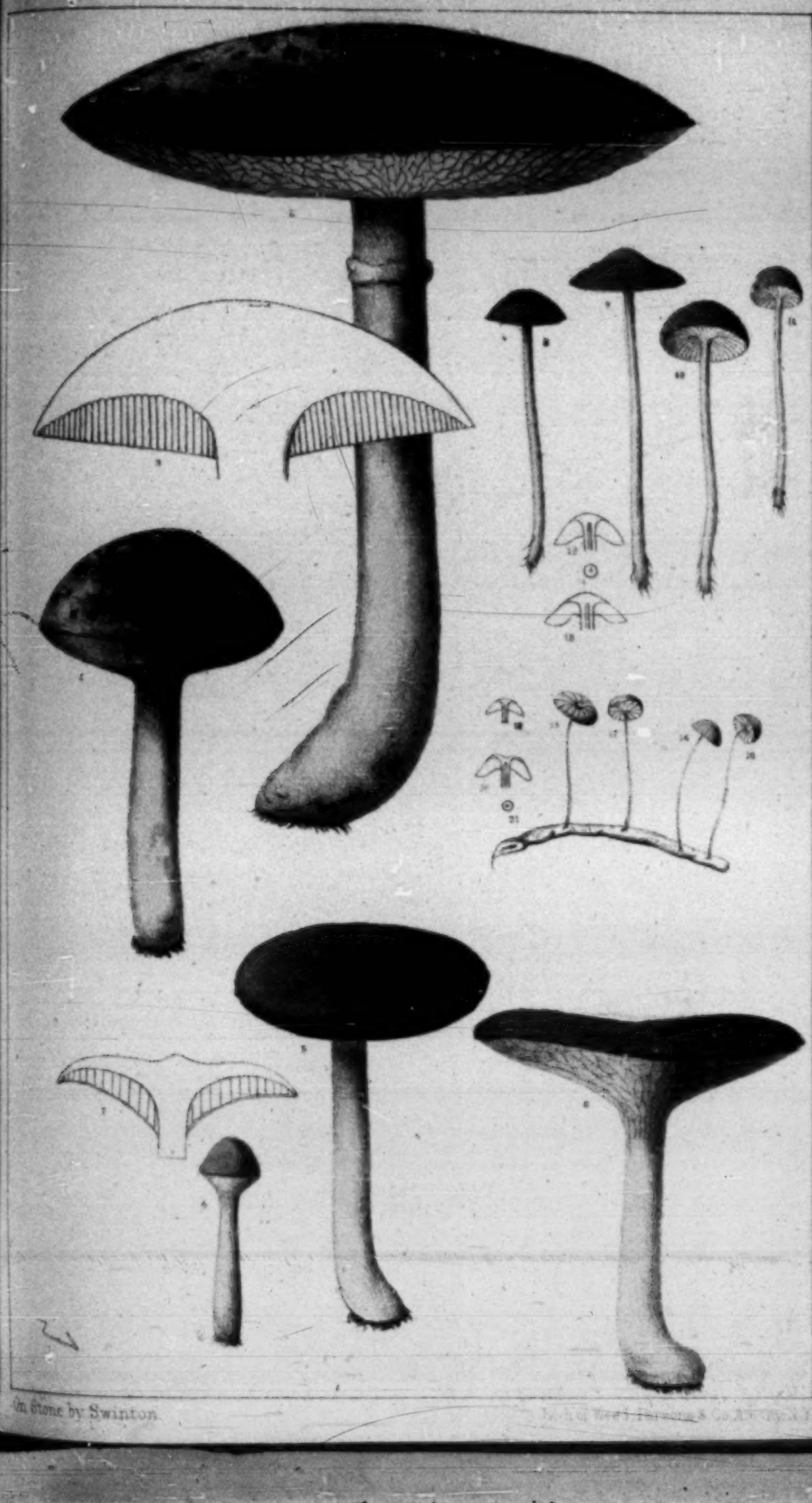
Figs. 8, 9. Specimens showing the upper surface of the pileus.
" 10, 11. Specimens showing the lower surface.
" 12, 13. Vertical sections of pilei.
Fig. 14. Transverse section of a stem.

Marasmius subvenosus Peck.

Page 25.

Figs. 15, 16. Specimens showing the upper surface of the pileus.
" 17, 18. Specimens showing the lower surface.
" 19, 20. Vertical sections of pilei, the latter slightly enlarged.
Fig. 21. Transverse section of a stem slightly enlarged.



On Stone by Swinton

1870

REPORT OF THE BOTANIST.

1870

S. B. Woolworth, LL.D.,
Secretary of the Board of Regents of the University of the State of New York:

Sir.—The following report of work done during the year 1869, toward perfecting the State Herbarium, is respectfully submitted:

Since the date of my last report, specimens of four hundred and twenty-two species of plants have been poisoned, mounted and placed in the Herbarium, three hundred and fifty-four of which were not before represented in it. Sixty-eight are varieties previously unrepresented, or better specimens than had before been obtained. A list of the names is given in a paper marked (1).

Specimens have been collected in the counties of Albany, Rensselaer, Saratoga, Warren, Hamilton, Lewis, Oneida, Otsego, Schoharie, Greene, Putnam and Orange, representing three hundred and one species new to the Herbarium, two hundred and ninety-nine new to the State and eighty-seven new to science, two of them representing two new genera. A list of these is given in a paper marked (2).

Specimens have been contributed, or obtained by exchange or in naming, which were collected in the counties of Suffolk, Richmond, New York, Westchester, Rockland, Ulster, Greene, Oneida, Onondaga and Erie. Of these, seventy-eight are new to the Herbarium and not among my collections of the past season, seventy-six are additions to the flora of the State and three are new species. If these be added to the collected species, the total becomes three hundred and seventy-nine new to the Herbarium, three hundred and seventy-five new to the State, and ninety new species.

A classified tabular statement is given below:

		New to the Herbarium.	New to the State.	New Species.	New Genera.
Plants collected	Ferns	2	....	..	...
	Lichens	11	11	..	...
	Fungi	288	288	87	2
Total		301	299	87	2
Plants contributed	Flowering plants	15	13	..	...
	Mosses	2	2	..	...
	Lichens	15	15	..	...
	Fungi	46	46	3	...
Total		78	76	3	...
Collected and contrib'ted		379	375	90	2

This statement does not include a large number of contributed specimens of species already represented in the Herbarium, nor unrepresented varieties of such species, neither extra limital ones. Of the latter class there are about thirty species, the specimens being from Rhode Island, New Jersey, Pennsylvania, Illinois, Colorado, California, Mexico, Michigan, Alabama and China. It is a gratifying fact, and one that indicates an increasing interest in botanical studies and investigations, that in no previous year have botanical contributions, communications and inquiries been received in so great numbers, nor from so many persons. Thanks are due to the botanists of this State and of others for their liberal contributions. A list of them is given in a paper marked (3).

New species and their descriptions, previously unreported species, remarkable varieties and observations, are given in a paper marked (4).

Appended to the list of collected plants, marked (2), is a list of edible fungi, collected and contributed; fourteen species in all, making, with those previously reported, about sixty edible species in the State.

Agaricus abortivus has not before been published as edible, but it is now thus classed, after a trial of its edible qualities without

any disagreeable results. Writers differ in their estimate of the qualities of *Agaricus melleus* and *Lactarius piperatus*. The former is said by some to be disagreeable and nauseous and the latter has even been classed with the poisonous species. Aware that tastes differ in such matters, I simply express my own views, after a fair trial of these species, in saying that the former, when well cooked, is decidedly good, and the latter is not only harmless, but scarcely inferior in edible qualities to the much lauded *Lactarius deliciosus*. The unpleasant or acrid taste of these species when raw is perhaps the occasion of hostility to them. *Agaricus ostreatus*, *Cantharellus cibarius* and *Lycoperdon giganteum* afford a very palatable dish, but *Helvella esculenta* and *Hydnum coralloides* have to me a somewhat strong fungoid flavor, but they produce no bad effects, and perhaps by different preparation might furnish agreeable food.

The species of the genera Clavaria and Æcidium are not in all cases sharply defined, and they therefore present some difficulties to the student. With a view to aid students in their discrimination of the species already found in the State, a synopsis of them is given in a paper marked (5).

The plan of making colored drawings of the fleshy fungi has been followed and in some instances extended so as to include microscopic species. The number of species and varieties thus figured the past season is one hundred and sixty-three. The figures will be placed on the species sheet with the dried specimens, and though not especially artistic, being often of necessity hastily made before the plant should wither, they serve to show the essential characters of the plant, and will be of great aid to those studying the specimens.

The condition of the specimens in the Herbarium is unimpaired. The specimens of fleshy fungi, though especially liable to the attacks of insects, have in no instance, so far as I can see, been at all affected, a good indication of their having been well poisoned. The preparation used consists of the following components:

Corrosive sublimate.....	4 drachms,
Sulphuric ether.....	3 ounces,
Mix and add:	
Spirits of turpentine.....	2 ounces,
Alcohol	3 ounces.

The method employed in drying specimens of fleshy fungi differs somewhat from that laid down in books. They are dried as soon as

possible by exposing them to the full rays of the sun whenever that is practicable. In cloudy weather they must be dried by a fire, care being taken not to heat them so much as to burn them. After they are thoroughly dried they are exposed to the moist atmosphere of a clear summer's night, or a damp day, until they are sufficiently soft and flexible to be pressed into proper shape by the thumb and fingers, after which they are placed in a paper press and dried like other plants.

(1)

SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

Hepatica acutiloba *DC.*
Ranunculus bulbosus *L.*
Aquilegia vulgaris *L.*
Liriodendron Tulipifera *L.*
Dicentra cucullaria *DC.*
Viola cucullata v. palmata *Gray.*
Lechea minor *Lam.*
Ascyrum Crux-Andreæ *L.*
Impatiens pallida *Nutt.*
Vitis cordifolia *Michx.*
Lespedeza violacea *Pers.*
Lathyrus maritimus *Bigel.*
Prunus Americana *Marshall.*
P. maritima *Wang.*
P. Virginiana *L.*
Potentilla arguta *Pursh.*
Cratægus coccinea *L.*
Œnothera fruticosa *L.*
Thaspium aureum *Nutt.*
Aralia nudicaulis *L.*
Eupatorium purpureum *L.*
Helianthus strumosus *L.*
Achillea Millefolium *L.*
Nabalus nanus *DC.*
Lobelia Nuttallii *R. & S.*
L. syphilitica *L.*
Vaccinium vacillans *Sol.*
Andromeda polifolia *L.*
Veronica peregrina *L.*
Echium vulgare *L.*
Nicotiana rustica *L.*
Asclepias incarnata *L.*
Chenopodium murale *L.*
C. urbicum *L.*
C. album *L.*
Atriplex patula *L.*
Polygonum maritimum *L.*
Rumex Britannica *L.*
R. verticillatus *L.*
Callitriche verna *L.*
Parietaria Pennsylvanica *Muhl.*
Quercus obtusiloba *Michx.*
Betula glandulosa *Michx.*
Salix humilis *Marshall.*
S. sericea *Marshall.*
Taxus Canadensis *Willd.*
Scheuchzeria palustris *L.*
Habenaria bracteata *R. Br.*
Spiranthes cernua *Richard.*
Cypripedium parviflorum *Salisb*
Trillium cernuum *L.*
Scirpus pungens *Vahl.*
Carex fœnea *Willd.*
C. alata *Torr.*
C. Buxbaumii *Wahl.*
C. grisea *Wahl.*
C. pubescens *Muhl.*
Bromus racemosus *L.*
B. Kalmii *Gray.*
B. sterilis *L.*
Panicum capillare *L.*
P. virgatum *L.*
Woodsia glabella *R. Br.*
Pellæa gracilis *Hook.*
Aspidium cristatum *Swartz.*
A. acrostichoides *Swartz.*
Osmunda Claytoniana *L.*
Botrychium lunarioides *Swartz.*

NEW TO THE HERBARIUM.

Nymphæa minor *DC.*
Reseda alba *L.*

Raphanus sativus *L.*
Silene Armeria *L.*
Lychnis vespertina *Sibth.*
Spergularia media *Presl.*
Althæa rosea *Cav.*
A. ficifolia *Cav.*
Malva Alcea *L.*
Polygala lutea *L.*
Trifolium procumbens *L.*
Saxifraga aizoides *L.*
Sedum ternatum *Michx.*
Anethum Foeniculum *L.*
Coriandrum sativum *L.*
Galium Mollugo *L.*
Valeriana officinalis *L.*
Aster azureus *Lindl.*
Solidago Houghtonii *T. & G.*
Nabalus Boottii *DC.*
Tragopogon porrifolius *L.*
Lactuca sativa *L.*
Matricaria Chamomilla *L.*
M. Parthenium *L.*
Cirsium altissimum *Spreng.*
Silybium Marianum *Gaert.*
Lampsana communis *L.*
Alyssum calycinum *L.*
Dianthus Armeria *L.*
Campanula rapunculoides *L.*
Rhinanthus Crista-galli L.
Hyssopus officinalis *L.*
Phlox paniculata *L.*
Polemonium cœruleum *L.*
Vinca minor *L.*
Vincetoxicum nigrum *L.*
Corispermum Hyssopifolium *L.*
Amarantus spinosus.
A. hypochondriacus *L.*
Polygonum incarnatum *Ell.*
P. lapathifolium *Ait.*
Euphorbia Peplus *L.*
E. Lathyris *L.*
Juniperus Sabina v. procumbens *Pursh.*
Sparganium eurycarpum *Eng.*
Tofieldia glutinosa *Willd.*
Carex sterilis *Willd.*
Calamagrostis Pickeringii *Gray.*
Stipa Richardsonii *Link.*
Triticum vulgare *Vill.*
Aspidium fragrans *Swartz.*

Bruchia flexuosa *Schwægr.*
Bryum Lescurianum *Sulliv.*
Dicranum pellucidum *Hedw.*
Plagiothecium latebricola *B. E.*
Biatora Hypnophila *Ach.*
Buellia geographica *L.*
Coniocybe pallida *Fr.*
Placodium cerinum *Hedw.*
Opegrapha varia *Ach.*
Calicium subtile *Pers.*
C. Curtisii *Tuck.*
Arthonia astroidea *Ach.*
Lecanora ventosa *Ach.*
Cetraria nivalis *Ach.*
Mycoporum pycnorum *Tuck.*
Lyngbya flacca *Ag.*
Desmarestia aculeata *Lamour.*
Callithamnion cruciatum *Ag.*
C. virgultorum *Harv.*
Enteromorpha intestinalis *Lk.*
Nemalion multifidum *J. Ag.*
Rhodomela subfusca *Ag.*
Calothrix confervicola *Ag.*
Cladophora uncialis *Fl. Dan.*
Agaricus vernus *Fr.*
A. Phalloides *Fr.*
A. cæsareus *Scop.*
A. vaginatus *Bull.*
A. Ceciliæ *B. & Br.*
A. farinosus *Schw.*
A. clypeolarius *Bull.*
A. acutesquamosus *Weinm.*
A. naucinus *Fr.*
A. granulosus *Batsch.*
A. vaccinus *Pers.*
A. variegatus *Scop.*
A. personatus *Fr.*
A. albofla vidus *Pk.*
A. nebularis *Batsch.*
A. infundibuliformis *Scha.*
A. carnosior *Pk.*
A. illudens *Schw.*
A. Adirondackensis *Pk.*
A. Poculum *Pk.*
A. brumalis *Fr.*
A. ditopus *Fr.*
A. metachrous *Fr.*
A. vulgaris *Pers.*
A. paluster *Pk.*
A. collariatus *Fr.*

Agaricus prælongus *Pk.*
A. galericulatus *Scop.*
A. purus *Pers.*
A. Corticola *Schum.*
A. sanguinolentus *A. & S.*
A. Familia *Pk.*
A. dryophilus *Bull.*
A. stipitarius *Fr.*
A. Campanella *Batsch.*
A. Fibula *Bull.*
A. umbelliferus *L.*
A. cervinus *Schaeff.*
A. nanus *Pers.*
A. leoninus *Schaeff.*
A. rhodopolius *Fr.*
A. strictior *Pk.*
A. serrulatus *Pers.*
A. adiposus *Fr.*
A. temnophyllus *Pk.*
A. Hallianus *Pk.*
A. curvo-marginatus *Pk.*
A. scorpioides *Fr.*
A. semiorbicularis *Bull.*
A. Lignicola *Pk.*
A. autumnalis *Pk.*
A. vernalis *Pk.*
A. lateritius *Fr.*
A. ovalis *Fr.*
A. tener *Schaeff.*
A. Hypnorum *Batsch.*
A. rimosus *Bull.*
A. fastigiatus *Fr.*
A. subochraceus *Pk.*
A. flocculosus *Berk.*
A. geophyllus *Sow.*
A. sarcophyllus *Pk.*
A. silvicola *Vitt.*
A. Hornemanni *Fr.*
A. Johnsonianus *Pk.*
A. perplexus *Pk.*
A. semiglobatus *Batsch.*
A. stercorarius *Fr.*
A. spadiceus *Fr.*
A. cernuus *Mull.*
A. semilanceolatus *Fr.*
A. solidipes *Pk.*
A. retirugis *Batsch.*
A. campanulatus *L.*
A. papilionaceus *Bull.*
A. fimicola *Fr.*

Agaricus gracilis *Fr.*
A. atomatus *Fr.*
A. disseminatus *Pers.*
Coprinus tomentosus *Fr.*
C. niveus *Fr.*
C. micaceus *Fr.*
C. plicatilis *Fr.*
C. ephemerus *Fr.*
Cortinarius caperatus *Fr.*
C. coloratus *Pk.*
C. communis *Pk.*
C. luteofuscus *Pk.*
C. collinitus *Fr.*
C. tricolor *Pk.*
C. argentatus *Fr.*
C. alboviolaceus *Fr.*
C. violaceus *Fr.*
C. subochraceus *Pk.*
C. autumnalis *Pk.*
C. Catskillensis *Pk.*
C. squamulosus *Pk.*
C. armillatus *Fr.*
C. castaneoides *Pk.*
C. biformis *Fr.*
C. distans *Pk.*
C. sanguineus *Fr.*
C. cinnamomeus *Fr.*
C. castaneus *Fr.*
C. vernalis *Pk.*
Hygrophorus chrysodon *Fr.*
H. congelatus *Pk.*
H. coccineus *Fr.*
H. nitidus *B. & C.*
Lactarius pyrogalus *Fr.*
L. plumbeus *Fr.*
L. glyciosmus *Fr.*
L. platyphyllus *Pk.*
L. affinis *Pk.*
L. sordidus *Pk.*
L. torminosus *Fr.*
L. subdulcis *Fr.*
L. camphoratus *Fr.*
L. rufus *Fr.*
L. uvidus *Fr.*
L. piperatus *Fr.*
Russula decolorans *Fr.*
R. nitida *Fr.*
R. fœtens *Fr.*
Cantharellus floccosus *Schw.*
C. cibarius *Fr.*

Cantharellus cinnabarinus *Schw.*
C. infundibuliformis *Fr.*
C. aurantiacus *Fr.*
C. dichotomus *Pk.*
Marasmius subvenosus *Pk.*
M. scorodonius *Fr.*
M. oreades *Fr.*
Lentinus cochleatus *Fr.*
L. lepideus *Fr.*
Lenzites Cratægi *Berk.*
Boletus luteus *L.*
B. collinitus *Fr.*
B. albus *Pk.*
B. Elbensis *Pk.*
B. flavidus *Fr.*
B. pictus *Pk.*
B. Clintonianus *Pk.*
B. spectabilis *Pk.*
B. paluster *Pk.*
B. Sistotrema *Fr.*
B. subtomentosus *Fr.*
B. edulis *Bull.*
B. cyanescens *Bull.*
B. scaber *Bull.*
B. retipes *B. & C.*
B. auriporus *Pk.*
B. strobilaceus *Scop.*
Polyporus salicinus *Fr.*
Thelephora laciniatus *Pers.*
Bovista nigrescens *Pers.*
B. plumbea *Pers.*
Lycoperdon giganteum *Batsch.*
L. cælatum *Fr.*
Geaster saccatus *Fr.*
Didymium cinereum *Fr.*
Æcidium Impatientis *Schw.*
Æ. Geranii *DC.*
Æ. Limonii *Pk.*
Æ. Myricatum *Schw.*
Æ. Orobi *DC.*
Æ. Fraxini *Schw.*
Æ. Violæ *Schum.*
Æ. Œnotheræ *Pk.*
Æ. pustulatum *Curt.*
Æ. Podophylli *Schw.*
Æ. Epilobii *DC.*
Æ. quadrifidum *DC.*
Æ. Ranunculi *Schw.*
Æ. Claytoniatum *Schw.*
Æ. macrosporum *Pk.*
Æcidium Compositarum *Mart.*
Æ. Clematitis *Schw.*
Ravenelia glanduliformis *B.&C.*
Polycystis Ranunculacearum *Desm.*
Uromyces macrospora *B. & C.*
U. Limonii *Lev.*
Ustilago segetum *Ditm.*
Podisoma macropus *Schw.*
Aregma mucronatum *Fr.*
Triphragmium clavellosum *Berk.*
Puccinia Tiarellæ *B. & C.*
P. Compositarum *Sch.*
P. Helianthi *Schw.*
P. Asteris *Schw.*
P. Xanthii *Schw.*
P. Violarum *Lk.*
P. Umbelliferarum *DC.*
P. Circææ *Pers.*
P. porphyrogenita *Curt.*
P. mesomajalis *B. & C.*
P. Anemones *Pers.*
P. coronata *Cd.*
P. Peckianum *Howe.*
Uredo Ari-Virginici *Schw.*
U. Cichoraceærum *Lev.*
U. Chærophylli *Schw.*
U. Filicum *Desm.*
U. Azaleæ *Schw.*
U. Rubigo *DC.*
U. Vacciniorum *Johnst.*
U. pustulata *Pers.*
Lecythea cylindrica *Strauss.*
L. gyrosa *Berk.*
L. Saliceti *Lev.*
Cystopus candidus *Lev.*
Microthyrium Smilacis *De Not.*
Cryptosporium filicinum *B. & C.*
Coniothecium toruloideum *B. & C.*
Sphæropsis Candollei *B. & Br.*
Stilbospora magna *Berk.*
Diplodia Mori *Berk.*
Streptothrix atra *B. & C.*
Helminthosporium Tiara *B. & R.*
H. macrocarpon *Grev.*
Sporocybe Persicæ *Fr.*

Fusisporium Buxi *Fr.*
F. miniatum *B. & C.*
Macrosporium Cheiranthi *Fr.*
Septoria Polygonorum *Desm.*
S. Œnotheræ *B. & C.*
S. Rubi *B. & C.*
S. Toxicodendri *Curt.*
S. sanguinea *Desm.*
S. destruens *Desm.*
S. viride-tingens *Curt.*
S. Liriodendri *B. & C.*
S. Vitis *B. & C.*
S. Plantaginicola *B. & C.*
S. Pyri *Curt.*
Ascospora Podophylli *Curt.*
Labrella Pomi *Mont.*
Helvella Infula *Schæff.*
Leotia lubrica *Pers.*
L. circinans *Pers.*
Bulgaria rufa *Schw.*
Rhizina undulata *Fr.*
Peziza cyathoidea *Bull.*
P. anomala *Pers.*
P. coccinea *Jacq.*
P. Virginea *Batsch.*
P. floccosa *Schw.*
Tympanis picastra *B. & C.*
Hysterium flexuosum *Schw.*
H. Rubi *Pers.*
Hysteriam Fraxini *Pers.*
Glonium stellatum *Muhl.*
Cordyceps militaris *Fr.*
C. purpurea *Fr.*
Hypoxylon multiforme *Fr.*
H. nummularium *Fr.*
H. coprophilum *Fr.*
Diatrype virescens *Schw.*
D. Duriæi *Mont.*
D. hanstellata *Fr.*
D. stigma *Fr.*
Melogramma Quercuum *Fr.*
Massaria vomitoria *B. & C.*
Sphæria aquila *Fr.*
S. putaminum *Schw.*
S. morbosa *Schw.*
S. doliolum *Pers.*
Microsphæria Syringæ *Schw.*
M. Vaccinii *Pk.*
Erysiphe lamprocarpa *Lev.*
E. fuscata *B. & C.*
Uncinula adunca *Lev.*
Dothidea Robertiani *Fr.*
Depazea Smilacicola *Schw.*
D. Pyrolæ *Fr.*
D. Kalmicola *Schw.*
D. Fraxinicola *Curt.*
Asterina Gaultheriæ *Curt.*

(2)

PLANTS COLLECTED NEW TO THE HERBARIUM.

Aspidium aculeatum *Swartz.*
A. Thelypteris *Swartz.*
Cetraria nivalis *Ach.*
C. Pinastri *Ach.*
Lecanora ventosa *Ach.*
Biatora exigua *Fr.*
B. lucida *Fr.*
Arthonia astroidea *Ach.*
Pyrenula leucoplaca *DC.*
Umbilicaria Pennsylvanica *Hm.*
Coniocybe furfuracea *Fr.*
Leptogium pulchellum *Nyl.*
Ephebe pubescens *Fr.*
Agaricus rubescens *Pers.*
A. volvata *Pk.*
A. equestris *L.*
A. Schumacheri *Fr.*
A. Trentonensis *Pk.*
A. chrysenteroides *Pk.*
A. Sienna *Pk.*
A. Hoffmani *Pk.*
A. ectypoides *Pk.*
A. Calathus *Bull.*
A. marmoreus *Pk.*
A. fragrans *Sow.*
A. zonatus *Pk.*
A. clusilis *Fr.*
A. spinulifer *Pk.*
A. simillimus *Pk.*
A. Leaianus *Berk.*
A. hæmatopus *Pers.*
A. Tintinabulum *Paul.*
A. leptophyllus *Pk.*
A. Fibuloides *Pk.*
A. lilacinus *Pk.*
A. pyxidatus *Fr.*
A. ulmarius *Fr.*
A. porrigens *Pers.*
A. admirabilis *Pk.*
A. sericellus *Fr.*
A. Grayanus *Pk.*
A. Woodianus *Pk.*
A. abortivus *B. & C.*
A. Seymourianus *Pk.*
A. asprellus *Fr.*
A. scabrosus *Fr.*
Agaricus conicus *Pk.*
A. Clintonianus *Pk.*
A. delicatulus *Pk.*
A. cuspidatus *Pk.*
A. salmoneus *Pk.*
A. flammans *Fr.*
A. squarrosus *Mull.*
A. heteroclitus *Fr.*
A. aggericola *Pk.*
A. Highlandensis *Pk.*
A. illicitus *Pk.*
A. excedens *Pk.*
A. Ascophorus *Pk.*
A. mutatus *Pk.*
A. dorsalis *Pk.*
A. mollis *Schæff.*
A. variabilis *Pers.*
A. haustellaris *Fr.*
A. Greigensis *Pk.*
A. eximius *Pk.*
A. limicola *Pk.*
A. odoratus *Pk.*
Coprinus radiatus *Bolt.*
C. silvaticus *Pk.*
C. semilanatus *Pk.*
Bolbitius nobilis *Pk.*
Cortinarius corrugatus *Pk.*
C. olivaceus *Pk.*
C. bolaris *Fr.*
C. asper *Pk.*
C. evernius *Fr.*
Gomphidius viscidus *Fr.*
Hygrophorus puniceus *Fr.*
H. miniatus *Fr.*
H. lætus *Fr.*
H. psittacinus *Schæff.*
Lactarius serifluus *DC.*
L. cinereus *Pk.*
L. fumosus *Pk.*
L. trivialis *Fr.*
L. insulsus *Fr.*
L. Chelidonium *Pk.*
Russula virescens *Fr.*
R. Mariæ *Pk.*
R. rubra *Fr.*
R. simillimus *Pk.*

Paxillus involutus *Batsch.*
Cantharellus cinereus *Fr.*
Plicatura Alni *Pk.*
Marasmius candidus *Fr.*
M. perforans *Fr.*
M. pulcherripes *Pk.*
M. papillatus *Pk.*
M. filopes *Pk.*
M. striatipes *Pk.*
M. anomalus *Pk.*
M. decurrens *Pk.*
Panus salicinus *Pk.*
Boletus bicolor *Pk.*
B. gracilis *Pk.*
Polyporus poripes *Fr.*
P. glomeratus *Pk.*
P. rubiginosus *Rostk.*
P. marginatus *Fr.*
P. fumosus *Fr.*
P. betulinus *Fr.*
P. cæsius *Fr.*
P. zonatus *Fr.*
P. velutinus *Fr.*
P. elongatus *Berk.*
P. Viticola *Fr.*
P. Vaillantii *Fr.*
P. vesiculosus *B. & C.*
P. corticola *Fr.*
Trametes sepium *Berk.*
Hydnum ferrugineum *Fr.*
H. zonatum *Batsch.*
H. pithyophilum *B. & C.*
Kneiffia setigera *Fr.*
K. candidissima *B. & C.*
Odontia fimbriata *Fr.*
Phlebia radiata *Fr.*
P. zonata *B. & C.*
Guepinia spathularia *Fr.*
Craterellus lutescens *Fr.*
Stereum albobadium *Schw.*
S. Curtisii *Berk.*
S. rugosum *Fr.*
Corticium incarnatum *Fr.*
C. Liquidambaris *B. & C.*
C. scutellatum *B. & C.*
C. salicinum *Fr.*
C. Auberianum *Mont.*
C. Rubicola *B. & C.*
Thelephora coralloides *Fr.*
Thelephora tuberosa *Grev.*
T. caryophyllæa *Fr.*
T. sebacea *Fr.*
Clavaria argillacea *Fr.*
C. fragilis *Holmsk.*
C. mucida *Pers.*
C. ligula *Fr.*
C. tetragona *Schw.*
C. flava *Fr.*
C. cinerea *Bull.*
C. trichopus *Pers.*
C. Kunzei *Fr.*
C. spinulosa *Pers.*
C. apiculata *Fr.*
C. crispula *Fr.*
Calocera cornea *Fr.*
C. palmata *Fr.*
C. viscosa *Fr.*
Tremella foliacea *Pers.*
Exidia repanda *Fr.*
Næmatelia nucleata *Fr.*
N. atrata *Pk.*
Cyphella fulva *B. & R.*
Phallus impudicus *Fr.*
Corynites Ravenelii *Berk.*
Geaster minimus *Schw.*
Lycoperdon molle *Pers.*
L. atropurpureum *Vitt.*
L. subincarnatum *Pk.*
Scleroderma Bovista *Fr.*
Stemonitis fusca *Roth.*
Trichia pyriformis *Hoffm.*
T. chrysosperma *DC.*
T. varia *Pers.*
T. serpula *Pers.*
Arcyria punicea *Pers.*
Didymium squamulosum *A. S.*
Dictydium magnum *Pk.*
Microthyrium Smilacis *De N.*
Leptostroma vulgare *Fr.*
Phoma ampelinum *B. & C.*
P. Menispermi *Pk.*
Sphæronema subulatum *Fr.*
S. pruinosum *Pk.*
S. Coryli *Pk.*
S. acerinum *Pk.*
Sphæropsis pulchella *B. & C.*
S. Menispermi *Pk.*
S. anomala *Pk.*

Vermicularia Dematium *Fr.*
V. ovata *Schw.*
Discosia Artocreas *Fr.*
Melanconium bicolor *Fr.*
Discella obscura *B. & C.*
Coryneum clavæsporium *Pk.*
Nemaspora aurea *Fr.*
N. Russellii *B. & C.*
Septoria Violæ *Desm.*
S. Erigeronis *Pk.*
S. Phlyctænoides *B. & C.*
S. Hippocastani *B. & Br.*
S. Nabali *B. & C.*
S. Lobeliæ *Pk.*
Cytispora melasperma *Fr.*
C. parva *B. & C.*
C. coryneoides *B. & C.*
C. Pinastri *Fr.*
C. hyalosperma *Fr.*
Torula populina *Pk.*
Uredo Aspidiotus *Pk.*
U. Æcidioides *Pk.*
Trichobasis Iridicola *Pk.*
T. suaveolens *Lev.*
Ustilago longissima *Tul.*
U. Montagnei *Tul.*
Uromyces Polygoni *Fuckel.*
U. Caricis *Pk.*
Pileolaria brevipes *B. & C.*
Aregma obtusatum *Fr.*
Puccinia Noli-tangeris *Cd.*
P. minutula *Pk.*
P. Pyrolæ *Cooke.*
P. Convolvuli *B. & C.*
P. tripustulata *Pk.*
P. Gerardii *Pk.*
P. emaculata *Schw.*
P. striola *Lk.*
Æcidium Berberidis *Pers.*
Æ. Erigeronatum *Schw.*
Æ. tenue *Schw.*
Æ. Osmorrhizæ *Pk.*
Æ. Mariæ-Wilsoni *Pk.*
Rœstelia cornuta *Tul.*
Stilbum Rhois *B. & C.*
S. pellucidum *Schrad.*
S. giganteum *Pk.*
Fusarium erubescens *B. & C.*
Tubercularia nigricans *DC.*
Oidium fructigenum *Kze.*
Sepedonium chrysospermum *Fr.*
Monotospora triseptata *Pk.*
Helvella crispa *Fr.*
H. sulcata *Afz.*
H. elastica *Bull.*
H. gracilis *Pk.*
Leotia circinans *Pers.*
Geoglossum luteum *Pk.*
G. glabrum *Pers.*
Peziza fusca *Pers.*
P. rubricosa *Fr.*
P. vinosa *A. & S.*
P. mollisioides *Schw.*
P. Erinaceus *Schw.*
P. echinosperma *Pk.*
P. æruginosa *Fr.*
P. hemisphærica *Wigg.*
P. cariosa *Pk.*
P. rubra *Pk.*
P. Tiliæ *Pk.*
P. comata *Schw.*
P. Persoonii *Moug.*
Dermatea furfuracea *Fr.*
Nodularia balsamicola *Pk.*
Sphinctrina Cerasi *B. & C.*
Tympanis alnea *Pers.*
Cenangium triangulare *Schw.*
C. Prunastri *Fr.*
C. Cerasi *Fr.*
Hysterium pulicare *Fr.*
H. Smilacis *Schw.*
H. Azaleæ *Schw.*
H. virgultorum *Desm.*
Xylaria corniformis *Fr.*
Rhizomorpha subcorticalis *Pers.*
Hypocrea floccosa *Fr.*
Hypoxylon concentricum *Bolt.*
H. Howeianum *Pk.*
H. perforatum *Schw.*
H. argillaceum *Fr.*
H. Beaumontii *B. & C.*
H. Morseii *B. & C.*
H. anthracodes *Fr.*
Nectria Peziza *Fr.*
Valsa pulchella *Fr.*
V. salicina *Fr.*
V. leucostoma *Fr.*
V. Pini *Fr.*
Sphæria aculeans *Schw.*

Sphæria Tiliæ *Fr.*
S. longissima *Pers.*
S. Coptis *Schw.*
S. Sarraceniæ *Schw.*
S. Solidaginis *Schw.*
S. Taxicola *Pk.*
Dothidea Ribesia *Pers.*
Dothidea Sambuci *Fr.*
D. crystallophora *B. & C.*
D. flabella *B. & C.*
D. Pteridis *Pers.*
D. Anemones *Fr.*
Erineum roseum *Schultz.*
Podosphæria Cerasi *Lev.*

EDIBLE FUNGI.

Agaricus rubescens *Pers.*
A. ulmarius *Sow.*
A. abortivus *B. & C.*
A. squarrosus *Mull.*
Paxillus involutus *Fr.*
Lactarius insulsus *Fr.*
Russula virescens *Fr.*
Polyporus poripes *Fr.*
Clavaria flava *Fr.*
C. tetragona *Schw.*
Helvella crispa *Fr.*
H. sulcata *Afz.*

Contributed.

Agaricus bombycinus *Schæff.*
Polyporus frondosus *Fr.*

(3)

LIST OF CONTRIBUTORS AND THEIR CONTRIBUTIONS.

W. H. LEGGETT, New York.

Clematis ochroleuca *Ait.*
Thalictrum purpureum *L.*
Ranunculus ab. v. micrantha *Gr.*
R. Cymbalaria *Pursh.*
Corydalis flavula *Raf.*
Nasturtium palustre *DC.*
N. sylvestre *R. Br.*
Barbarea præcox *R. Br.*
Arabis perfoliata *Lam.*
Erysimum cheiranthoides *L.*
Alliaris officinalis *Ander.*
Lepidium ruderale *L.*
Draba Caroliniana *Walt.*
Polanisia graveolens *Raf.*
Viola primulæfolia *L.*
Lechea Novæ-Cæsareæ *Aust.*
Silene inflata *Smith.*
S. Armeria *L.*
Lychnis vespertina *Sibth.*
Arenaria peploides *L.*
Cerastium oblongifolium *Torr.*
Stellaria longifolia *Muhl.*
Linum striatum *Walt.*
Parnassia Caroliniana *Michx.*
Frangula Caroliniana *Gray.*
Polygala polygama *Walt.*
P. brevifolia *Nutt.*
P. Nuttallii *T. & C.*
Coronilla varia *DC.*
Prunus maritima *Wang.*
Rubus cuneifolius *Pursh.*
Cratægus parvifolia *Ait.*
Sedum acre *L.*
Galium Mollugo *L.*
Stylosanthes elatior *Swartz.*
Galactia mollis *Michx.*
Ludwigia alternifolia *L.*
L. sphærocarpa *Ell.*
Ammannia humilis *Michx.*
Lythrum Hyssopifolia *L.*
L. lineare *L.*
Hydrocotyle interrupta *Muhl.*
Eclipta pro. v. brachypoda *Gr.*
Eupatorium rotundifolium *L.*
E. pubescens *Muhl.*
Galinsoga parviflora *Cav.*
Liatris scariosa *Willd.*
Solidago rigida *L.*

Melissa officinalis *L.*
Mentha rotundifolia *L.*
M. aqu. v. crispa *Benth.*
Ilex opaca *Ait.*
Cuscuta inflexa *Engelm.*
Lemna minor *L.*
Wolffia Columbiana *Karst.*
Potamogeton hybridus *Michx.*
Tipularia discolor *Nutt.*
Commelyna Virginica *L.*
Eleocharis olivacea *Torr.*
Botrychium lanceolatum *Angst.*

J. S. MERRIAM, New York.

Sesuvium Portulacastrum *L.*
Nabalus racemosus *Hook.*
Crepis virens *L.*

S. N. COWLES, Otisco, N. Y.

Carex capillaris *L.*

W. R. GERARD, Poughkeepsie, N. Y.

Æcidium Urticæ *DC.*
Æ. Iridis *Gerard.*
Æ. aroid. v. Caladii *Schw.*
Roestelia cornuta *Tul.*
Aregma obtusatum *Fr.*
Pileolaria brevipes *B. & C.*
Glonium stellatum *Muhl.*
Hypoxylon concentricum *Bol.*

G. B. BRAINERD, Brooklyn, N. Y.

Juncus maritimus *Lam.*

E. L. HANKENSON, Newark, N. Y.

Hibiscus Trionum *L.*
Claytonia Virginica *L.*
Gaylussacia frondosa *T. & G.*
Salix nig. v. amygdalinus *And.*
Juncus alp. v. insignis *Fr.*
Carex lup. v. gigantea *Lord.*
Hierochloa borealis *R. & S.*

RICHARD PRESCOTT, Albany, N. Y.

Sphæropsis anomala *Pk.*

E. C. HOWE, M. D., NEW BALTIMORE, N. Y.

Fedia radiata *Michx.*
F. umbilicata *Sulliv.*
Dicranum spurium *Hedw.*
Trichobasis Galii *Lev.*
Lecythea Rosæ *Lev.*
Pileolaria brevipes *B. & R.*
Uromyces Polygoni *Fuckel.*
Polyporus porosus *Fr.*
Æcidium aroid. v. Caladii *Schw.*
Erineum quercinum *Kze.*
Arthonia Lecideëlla *Nyl.*
Biatora exigua *Fr.*
Collema cyrtaspes *Tuck.*

C. S. OSBORN, Rochester, N. Y.

Anemone nemorosa *L.*
Aquilegia Canadensis *L.*
Cardamine rhom. v. purpurea *Torr.*
Dentaria laciniata *Muhl.*
Arabis lyrata *L.*
Polanisia graveolens *Raf.*
Viola rostrata *Pursh.*
Hypericum Kalmianum *L.*
Saxifraga Virginiensis *Michx.*
Tiarella cordifolia *L.*
Houstonia purp. v. ciliolata *Gr.*
Liatris cylindracea *Michx.*
Aster ptarmicoides *T. & G.*
Erigeron bellidifolium *Muhl.*
Lobelia Kalmii *L.*
Arctostaphylos Uva-Ursi *Spreng.*
Pyrola secunda *L.*
Chimaphila umbellata *Nutt.*
Couopholis Americana *Wallr.*
Pedicularis Canadensis *L.*
Mentha viridis *L.*
M. piperita *L.*
Asclepias tuberosa *L.*
A. quadrifolia *Jacq.*
A. verticillata *L.*
Shepherdia Canadensis *Nutt.*
Comandra umbellata *Nutt.*
Sisyrinchium Bermudiana *L.*
Pellæa atropurpurea *Lk.*
Cheilanthes lanuginosa *Nutt.*
Camptosorus rhizophyllus *Lk.*
Asplenium Trichomanes *L.*

C. F. AUSTIN, Closter, N. J.

Sticta crocata *Ach.*
Ephebe pubescens *Fr.*
Lecanora rubina *Vill.*
Collema pulposum *Ach.*

Miss MARY L. WILSON, Buffalo, N. Y.

Usnea cavernosa *Tuck.*
Evernia furfuracea *Mann.*
E. vulpina *Ach.*
Ramalina calicaris *Fr.*
Physcia pulverulenta *Fr.*
P. cil. v. angustata *Tuck.*
Pannaria lurida *Mont.*
Biatora rub. v. spadicea *Tuck.*
B. rub. v. Schweinitzii *Tuck.*
Buellia alboatra *Schær.*
Lecanora cinerea *Fr.*
Gyalecta cupularis *Schær.*
Lecidea Russellii *Tuck.*
Pertusaria pustulata *Ach*
Myriangium Curtisii *B. & M.*
Endocarpon arboreum *Schw.*
Trypethelium cruentum *Mont.*
Leptogium phyllocarpum *Nyl.*
L. pulchellum *Nyl.*
Collema pycnocarpum *Nyl.*
Cladonia macilenta *Hoffm.*
Stereocaulon condensatum *Hoffm.*
Parmelia colpodes *Ach.*

S. B. WOOLWORTH, LL.D., Albany, N. Y.

Argemone Mexicana *L.*
Liatris Boykinii *T. & G.*
Cleome integrifolia *Nutt.*
Artemisia frigida *Willd.*
Chrysopsis villosa *Nutt.*

Rev. HENRY A. RILEY, Montrose, Pa.

Verbascum Thapsus *L.* (white flowered.)

M. S. Bebb, Fonntaindale, Ill.

Draba brachycarpa *Nutt.*
D. Car. v. micrantha *Bebb.*
Lithospermum longiflorum *Spreng.*
Castilleia sessiliflora *Ph.*
Euphorbia commutata *Engelm.*

Miss Sarah P. Monk, Poughkeepsie, N. Y.

Polypodium vulgare v. Cambricum *L.*

Hon. A. S. Johnson, Utica, N. Y.

Agaricus bombycinus *Schæff.*
Lycoperdon cyathiformis *Bosc.*

Henry Gillman, Detroit, Mich.

Wolffia Columbiana *Karst.*
W. arrhiza *L.*
Lemna minor *L.*

S. T. Olney, Providence, R. I.

Carex juncea *Willd.*
C. gynandra *Schw.*
C. striata *Michx.*
Carex Olneyi *Boott.*
C. polymorpha *Muhl.*

B. D. Gilbert, Utica, N. Y.

Adiantum Capillus-Junonis *Rupt.*
Cheilanthes argentea *Hook.*

Frank B. Cornwell, Vallejo, Cal.

Lecanora ventosa *Ach.*

Hon. G. W. Clinton, Buffalo, N. Y.

Draba verna *L.*
Primula Mistassinica *Michx.*
Dicranum palustre *Brid.*
Orthotrichum psilocarpum *James.*
Phallus impudicus *Fr.*
Tremella mesenterica *Retz.*
T. foliacea *Pers.*
Phlebia radiata *Fr.*
Corticium salicinum *Fr.*
Trichia chrysosperma *DC.*
T. pyriformis *Hoffm.*
Stemonitis fusca *Roth.*
Leptostroma vulgare *Fr.*
Sphæronema subtile *Fr.*
Æcidium Penstemonis *Schw.*
Æ. Thalictri *Grev.*
Æ. Allenii *Clinton.*
Æ. Ranunculacearum *DC.*
Æ. Berberidis *Pers.*
Æ. Euphorbiæ-hypericifoliæ, *Schw.*
Æ. Houstoniatum *Schw.*
Æ. Gnaphaliatum *Schw.*
Æ. quadrifidum *DC.*
Æ. macrosporium *Pk.*
Æ. tenue *Schw.*
Æ. Menthæ *DC.*
Æ. Iridis *Gerard.*

Puccinia Pyrolæ *Cooke.*
P. Polygonorum *Lk.*
P. Galiorum *Lk.*
P. Cryptotæniæ *Pk.*
Uromyces appendiculata *Lev.*
U. solida *B. & C.*
U. Junci *Schw.*
Uredo Helianthi *Schw.*
U. Potentillarum *DC.*
U. Æcidioides *Pk.*
Trichobasis Labiatarum *Lev.*
Pileolaria brevipes *B. & R.*
Urnula Craterium *Schw.*
Peziza æruginosa *Fr.*
Tympanis alnea *Pers.*
Patellaria atrata *Fr.*
Sphinctrina Cerasi *B. & C.*
Cenangium Prunastri *Fr.*
Nectria appendiculata *Curt.*
Hypoxylon concentricum *Bolt.*
Xylaria digitata *Fr.*
X. Hypox. v. pedata *Fr.*
Valsa leucostoma *Fr.*
V. salicina *Fr.*
Sphæria oötheca *B. & C.*
S. gyrosa *Schw.*
S. limæformis *Schw.*
Dothidea crystallophora *B. & C.*
D. Sambuci *Fr.*
D. Ribesia *Pers.*
Glonium stellatum *Muhl.*
Erineum quercinum *Kze.*

(4)

PLANTS FOUND GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

CORYDALIS FLAVULA *Raf.*

Near Paltz Point, Ulster county. *W. H. Leggett.*

FRANGULA CAROLINIANA *Gray.*

Roadside between Hunter's Point and Flushing. *Leggett.*

LINUM STRIATUM *Walt.*

Tottenville, Staten Island. *Leggett.*

GALACTIA MOLLIS *Michx.*

Washington Heights, N. Y. Isl. *Leggett.*

CORONILLA VARIA *DC.*

Lake Mohegan, near Peekskill. *Leggett.* Introduced.

CRATÆGUS PARVIFOLIA *Ait.*

Tottenville, Staten Island. *Leggett.*

HIBISCUS TRIONUM *L.*

Newark, Wayne county. *E. L. Hankenson.* Introduced.

FEDIA RADIATA *Michx.*

New Baltimore. *E. C. Howe.*

FEDIA UMBILICATA *Sulliv.*

Growing with the preceding, and scarcely to be distinguished from it except by the fruit. *Howe.*

EUPATORIUM PUBESCENS *Muhl.*

Rossville, Staten Island. *Leggett.*

CREPIS VIRENS *L.*

Greenwood Cemetery, Brooklyn. Apparently well established. *J. S. Merriam.*

SESUVIUM PORTULACASTRUM *L.*

East Hampton, Long Island. *Merriam.*

MENTHA AQUATICA V. CRISPA *Benth.*

Lake Mohegan; also near Middletown, Orange county. *Leggett.*

CAREX CAPILLARIS *L.*

Otter Creek, Onondaga county. *S. N. Cooles.* A remarkably tall slender variety, with the perigynia two-nerved.

MOSSES.

DICRANUM PALUSTRE *Brid.*

Whirlpool, Erie county. *G. W. Clinton.*

ORTHOTRICHUM PSILOCARPUM *James.*

Trees. Harlem. *Clinton.*

LICHENS.

CETRARIA PINASTRI *Fr.*

Catskill mountains. Sterile.

CETRARIA NIVALIS *Ach.*

Top of Mount Marcy.

STICTA CROCATA *Ach.*

Shawangunk mountains. *C. F. Austin.*

PANNARIA LURIDA *Mont.*

Trees. Buffalo. *Miss Mary L. Wilson.*

LECIDEA RUSSELLII *Tuck.*

Rocks. Niagara Falls. *Miss Wilson.*

PARMELIA COLPODES *Ach.*

Buffalo. *Miss Wilson.*

LECANORA VENTOSA *Ach.*

Rocks. Top of Mounts Marcy and of Whiteface.

LECANORA RUBINA *Ach.*

Rocks. Haverstraw, Rockland county. *Austin.*

BIATORA LUCIDA *Fr.*

Roots of overblown trees. Sandlake, Rensselaer county. A rare species.

BIATORA EXIGUA *Fr.*

Bark of living trees. Very common.

BUELLIA ALBOATRA *Schær.*

Bark of trees. Buffalo. *Miss Wilson.*

CLADONIA MACILENTA *Hoffm.*

Eighteen-mile Creek. *Miss Wilson.*

PERTUSARIA PUSTULATA *Ach.*

Trees. Buffalo. *Miss Wilson.*

PYRENULA LEUCOPLACA *DC.*

Trees. Helderberg mountains.

ARTHONIA ASTROIDEA *Ach.*

Trees. New Baltimore. *Howe.* Albany and Sandlake.

ARTHONIA LECIDEELLA *Nyl.*

Trees. New Baltimore. *Howe.*

ENDOCARPON ARBOREUM *Schw.*

Trees. Buffalo. *Miss Wilson.*

UMBILICARIA PENNSYLVANICA *Hoffm.*

Rocks. Garrison's Station, Putnam county. Several species of Umbilicaria grow in great profusion on the exposed rocks of the Highlands.

CONIOCYBE FURFURACEA *Ach.*

Roots of overblown trees. Sandlake.

COLLEMA PYCNOCARPUM *Nyl.*

Mossy trunks of trees. Buffalo. *Miss Wilson.*

COLLEMA PULPOSUM *Ach.*

Rocky banks, Herkimer county. *Austin.*

COLLEMA CYRTASPES *Tuck.*

Rocks. New Baltimore. *Howe.*

LEPTOGIUM PULCHELLUM *Nyl.*

Rocks and trees. Buffalo. *Miss Wilson.* New Baltimore, *Howe.* Catskill mountains.

MYRIANGIUM CURTISII *B. & M.*

Branches of Cratægus, Buffalo. *Miss Wilson.*

EPHEBE PUBESCENS *Fr.*

Rocks. Haverstraw. *Austin.* Top of Mount Marcy.

STEREOCAULON CONDENSATUM *Hoffm.*

Niagara Falls. *Miss Wilson.*

GYALECTA CUPULARIS *Schær.*

Rocks. Niagara Falls. *Miss Wilson.*

FUNGI.

AGARICUS RUBESCENS *Pers.*

Grassy ground in open woods. Greenbush. July. The change of color in the flesh when bruised is not well marked in our specimens.

AGARICUS (AMANITA) VOLVATUS *n. sp.*

Pileus fleshy, convex, at length expanded, striate on the margin, sprinkled with small floccose scales, whitish, the disk pale brown; lamellæ close, free, white; stem equal or slightly tapering upward, stuffed, minutely floccose-scaly, ringless, whitish; volva large, firm, loose; spores subelliptical $\frac{1}{250}$ of an inch long. Plant 2–3 inches high, pileus as broad, stem 3–4 lines thick.

Damp ground in open woods. Greenbush. July.

A species well marked by the absence of the annulus and the presence of a large, thick, bulb-like volva, whose free margin is more or less lobed. The lamellæ in the dried specimens have assumed a pale cinnamon hue.

AGARICUS SCHUMACHERI *Fr.*

Ground in woods. Greig, Lewis county. September. This plant when old assumes the appearance of a large *Clitocybe*.

AGARICUS EQUESTRIS *L.*

Ground in pine woods. Bethlehem, Albany county. November. This is the form with a white stem. The lamellæ in our specimens are not entirely free, but deeply emarginate and attached to the stem by a very narrow part.

AGARICUS (TRICHOLOMA) TRENTONENSIS *n. sp.*

Pileus thin, convex or expanded, often irregular, smooth or subvirgate, hygrophanous, slightly striatulate on the margin when moist, dingy white, the disk generally brown; lamellæ very narrow, crowded, obscurely emarginate, white inclining to yellowish; stem short, equal, solid, slightly striate, white.

Plant 1.5′–2′ high, pileus 1′–2′ broad, stem 3″–5″ thick.
Ground and rotten wood in woods. Trenton Falls. September. Gregarious or subcæspitose, sometimes closely crowded.

AGARICUS (TRICHOLOMA) SIENNA *n. sp.*

Pileus rather thin, convex, then expanded or slightly depressed, smooth, hygrophanous, obscurely striatulate on the extreme margin when moist, yellowish red; lamellæ moderately close, whitish; stem equal, smooth, hollow, concolorous with the pileus.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 3″–4″ thick.
Ground in woods. Greig. September.
The pileus has the color of burnt sienna, and the coloration of the whole plant resembles that of *Hydnum repandum*.

AGARICUS (TRICHOLOMA) CHRYSENTEROIDES *n. sp.*

Plant light yellow; pileus fleshy, convex or expanded, firm, smooth, dry; lamellæ close, attached, slightly ribbed along the upper margin with transverse veinlets; stem firm, equal, smooth, solid; spores elliptical, $\frac{1}{1000}$′ long.

Plant 2′–4′ high, pileus 1′–2′ broad, stem 3″–4″ thick.
Ground in woods. Greig. September.
Perhaps too near *A. chrysenterus*, but the lamellæ are attached to the stem, not free, and the pileus is without any umbo.

AGARICUS (CLITOCYBE) HOFFMANI *n. sp.*

Pileus fleshy, thin, convex, then funnel-form, umbilicate, hygrophanous, watery yellow when moist, yellow when dry; lamellæ

broad, distant, decurrent, bright yellow, interspaces rugose; stem equal, smooth, stuffed or hollow, yellow; spores elliptical, $\frac{1}{1000}'$ long.

Plant 1′–2′ high, pileus 8″–18″ broad, stem 1″ thick.

On much decayed wood in woods. Greig. September.

It differs from *A. bellus* by its smooth pileus and decurrent lamellæ. I wish this pretty little plant to bear the name of Gov. John T. Hoffman, because of his high appreciation of Natural History and his just regard for its interests.

AGARICUS FRAGRANS *Sow.*

Ground in woods. Greig. September.

AGARICUS CALATHUS *Bosch.*

Low grounds in woods. Sandlake. Well marked by the peculiar violaceous colored lamellæ.

AGARICUS (CLITOCYBE) MARMORRUS *n. sp.*

Pileus fleshy, firm, convex, smooth, white, mottled with darker watery spots; lamellæ close, narrow, arcuate, unequally decurrent, white; stem firm, solid, long, generally curved and slightly thicker at the base, white, pruinose; spores globose, $\frac{1}{1000}'$ long.

Plant cæspitose, 4′–6′ high, pileus 2′–4′ broad, stem 6″–10″ thick.

On old logs in woods. Greig. September.

This species is allied to *A. illudens*, but is very different in color and is destitute of an umbo.

AGARICUS (CLYTOCYBE) ECTYPOIDES *n. sp.*

Pileus fleshy, thin, broadly umbilicate or funnel-form, with a spreading margin, finely virgate with close-pressed blackish fibrils, and squamulose-punctate, the black points seated on the radiations, varying in color from watery-gray to dull watery-yellow; lamellæ close, narrow, long decurrent, some of them forked, yellowish; stem equal, firm, solid, colored like the pileus, with a white mycelium at the base.

Plant about 2′ high, pileus 1′–2′ broad, stem 1″–2″ thick. Subcæspitose.

Rotten logs and stumps in woods. Sandlake and Catskill mountains. July and August.

The pileus is sometimes lobed, sometimes excentric.

AGARICUS (COLLYBIA) ZONATUS *n. sp.*

Pileus thin, fleshy, convex, then expanded or slightly depressed, umbilicate, hairy-tomentose, tawny with obscure darker zones;

lamellæ narrow, close, white, free; stem equal, firm, hollow, tomentose-fibrillose, brownish-tawny; spores subelliptical, $\frac{1}{3000}$' long.

Plant cæspitose, 1.5'–2' high, pileus 6"–12" broad, stem 1" thick.

Base of an elm tree. Albany. August.

Allied to *A. stipitarius*, but a much larger plant with a different mode of growth. Under a lens the pileus is seen to be clothed with rather coarse, densely matted, subfasciculate, prostrate, tawny hairs. In the dried specimens the darker zones are less clear, and the pileus has become concentrically sulcate. A minute umbo or papilla is seen in the umbilicus in some specimens.

AGARICUS CLUSILIS *Fr.*

Burnt ground in woods. Greig. September.

AGARICUS (COLLYBIA) SPINULIFER *n. sp.*

Pileus fleshy, thin, convex, smooth, hygrophanous, alutaceous tinged with pink and slightly striatulate on the margin when moist, paler when dry; lamellæ narrow, close, rounded behind and free, pale cinnamon colored; stem slender, tough, smooth, shining, hollow, reddish-brown, paler above, with a whitish mycelium at the base; spores subelliptical, $\frac{1}{1500}$' long.

Plant cæspitose, 2'–3' high, pileus 1'–1.5' broad, stem 1" thick.

Old logs and ground among leaves in woods. Greig. September. (Plate 1, figs. 4–9.)

The lamellæ are clothed with minute spines or setæ, of a dull cinnamon color, about $\frac{1}{1500}$' long, thickest near the base and gradually tapering to the point. These give to the lamellæ their peculiar hue. In young plants the stem is whitish nearly to the base.

AGARICUS (COLLYBIA) SIMILLIMUS *n. sp.*

Size and habit exactly as in the preceding species for which it is liable to be mistaken. The pileus becomes lighter colored (almost white) in drying, the lamellæ are white, attached to the stem and destitute of the spine-like processes which form such a remarkable feature in its near ally, and the stem is of a uniform reddish-brown color.

Greig. September.

AGARICUS LEAIANUS *Berk.*

Decaying beech logs and branches in woods. Buffalo. *Clinton.* Sandlake, Helderberg and Adirondack mountains. July, September.

An extremely beautiful plant when young and fresh, but it loses its color in drying. It grows in dense tufts, and when young,

both pileus and stems are sprinkled with a yellow pulverulent coating. When old, the plant becomes much faded. The fingers are stained in handling it. The lamellæ in our specimens were yellow with an orange-colored edge. Spores ellipitical, $\frac{1}{1500}$' long.

AGARICUS HÆMATOPUS *Pers.*

Old logs in woods. Garrisons. Greig, etc. June, September.

AGARICUS TINTINNABULUM *Fr.*

On an old beech stump. - Knowersville, Albany county. May.

AGARICUS (MYCENA) LEPTOPHYLLUS *n. sp.*

Pileus thin, campanulate or convex, subpapillate, smooth, striatulate when moist, pale reddish-yellow, the disk brighter colored; lamellæ close, narrow, widest at the middle, pointed at the outer extremity, sharply uncinate at the inner, whitish or yellow with a flesh-colored tint; stem slender, tough, hollow, smooth, whitish.

Plant 1'–1.5' high, pileus 3"–5" broad, stem .5" thick.

Old mossy logs and rotton wood in woods. Greig. September.

The papilla of the pileus is sometimes absent.

AGARICUS (OMPHALIA) FIBULOIDES *n. sp.*

Pileus fleshy but thin, convex, deeply umbilicate, smooth, hygrophanous, dull orange-colored and striatulate when moist, paler when dry; lamellæ rather close, arcuate, long-decurrent, venose-connected, white; stem equal, smooth, hollow, nearly the same color as the pileus, with a white mycelium at the base; spores sub-elliptical, $\frac{1}{1000}$' long.

Plant 1'–2' high, pileus 6"–10" broad, stem scarcely 1" thick.

Burnt mossy ground in a pasture. Greig. September.

It resembles *A. Fibula* in its coloration, but its larger size, short stem, and venose-connected lamellæ readily distinguish it.

AGARICUS (OMPHALIA) LILACINUS *n. sp.*

Pileus submembranaceous, convex, deeply umbilicate, smooth, viscid, hygrophanous, dull yellow with a slight greenish tinge and striatulate when moist, bright sulphur-yellow when dry; lamellæ rather close, arcuate, decurrent, pale lilac; stem equal, smooth, hollow, viscid, yellowish with a pale lilac-colored mycelium at the base.

Plant about 1' high, pileus 6"–9" broad, stem .5" thick.

Old logs in woods. Trenton Falls. Sept. (Plate 1, figs. 10–13.)

A very distinct species, remarkable for the peculiar hue of the lamellæ and the mycelium. The color of the latter is retained in the dried specimens before me.

AGARICUS PYXIDATUS *Fr.*

Ground in pastures. Greig. September.

AGARICUS ULMARIUS *Fr.*

Elm trees. Trenton Falls. September.

I have what appears to be a form of this species, with the pileus destitute of spots and the lamellæ deeply emarginate. It grows in large tufts from the roots of maple trees.

AGARICUS FORENSIS *Fr.*

Rotten wood in woods. Common in the North woods. September, October.

AGARICUS (PLUTEUS) ADMIRABILIS *n. sp.*

Pileus rather thin, convex, broadly umbonate, glabrous, rugose-reticulated, hygrophanous, obscurely striatulate on the margin when moist, bright yellow; lamellæ close, broad, remote, dull yellowish, then flesh colored; stem slender, smooth, hollow, equal or slightly thickened at the base, yellow, with a white mycelium; spores subglobose, $\frac{1}{2500}$' long.

Plant 1.5'–2' high, pileus 6"–10" broad, stem scarcely 1" thick. Old logs in woods. Greig. September.

Near *A. chrysophlebius* from which it is separated by the umbonate, hygrophanous, uniformly yellow pileus, differently colored, lamellæ and stem not enlarged above.

AGARICUS SERICELLUS *Fr.*

Ground in woods. Catskill mountains. July.

AGARICUS (ENTOLOMA) GRAYANUS *n. sp.*

Pileus fleshy, convex, frequently wavy or irregular, hygrophanous, dull watery yellow when moist, smooth, shining and nearly white when dry; lamellæ plane, close, flesh colored; stem equal, firm, solid, white; spores subglobose, irregular $\frac{1}{1500}$' long.

Plant gregarious, 2'–3' high, pileus 1.5'–2' broad, stem 3"–5" thick. Ground in old roads. Sandlake. August.

Dedicated to Prof. A. Gray, in view of his eminent position as a botanical writer.

AGARICUS (ENTOLOMA) CUSPIDATUS *n. sp.*

Pileus thin, conical or subcampanulate, smooth, shining, bearing an elongated papilla or cusp at the apex, the margin often irregu-

lar; lamellæ broad, subdistant, narrowed toward the stem, slightly emarginate and attached, more or less denticulate on the edge, usually terminating a little before the margin; stem equal, hollow, fibrous, often twisted; spores subglobose, irregular, $\frac{1}{7500}$' in diameter.

Plant pale yellow throughout, 3'–5' high, pileus 9''–12'' broad, stem 1''–1.5'' thick.

Swamps and sphagnous marshes. Sandlake. August. (Plate 2, figs. 14–18.)

Apparently closely allied to *A. Murraii*, but the pileus is not striate, and is distinguished by a remarkable cusp. The spores are a little larger than in *A. Murraii*.

AGARICUS (ENTOLOMA) SALMONEUS *n. sp.*

Pileus thin, conical or campanulate, subacute, rarely with a minute papilla at the apex, smooth, of a peculiar soft ochraceous color, slightly tinged with salmon or flesh color; lamellæ and stem colored like the pileus.

Low grounds, under spruce trees and in swamps. Sandlake. August. (Plate 4, figs. 6–9.)

It is with some hesitation that this is proposed as a species, its resemblance to the preceding one is so close. The only difference is found in its color and in the absence of the prominent cusp of that plant. In both species the pileus is so thin, that in well dried specimens, slender, dark, radiating lines on it, mark the position of the lamellæ beneath, although in the living plants these are not visible.

AGARICUS (CLITOPILUS) WOODIANUS *n. sp.*

Pileus fleshy, thin, convex or expanded, umbilicate or centrally depressed, hygrophanous, striatulate on the margin when moist, whitish or yellowish-white and shining when dry, the margin often wavy or flexuous; lamellæ close, adnate-decurrent, whitish, then flesh colored; stem equal, flexuous, shining, colored like the pileus, solid or hollow from the erosion of insects; spores subglobose, irregular, $\frac{1}{3500}$' long.

Plant 3' high, pileus 1'–2' broad, stem 2'' thick.

Ground and old logs in woods. Greig. September.

It resembles *A. Grayanus* in color, but is easily distinguished from it by the more slender habit and the character of the lamellæ. Dedicated to Prof. A. Wood, in view of his exalted position as a botanist, and of the many acts of kindness the writer has received from him.

AGARICUS ADORTIVUS *B. & C.*

Ground in woods and copses. Greig and Greenbush. September and October.

The lamellæ are arcuate and long-decurrent in some specimens, nearly plane and adnate-decurrent in others. They are at first grayish with a flesh colored tint, at length bright flesh colored; some of them are forked. The odor is like that of fresh meal, the taste not unpleasant. I have partaken of it without any injurious effects, and deem it edible, though not as pleasant as some. The abortive form sometimes grows intermingled with the others, sometimes alone.

AGARICUS (CLITOPILUS) SEYMOURIANUS *n. sp.*

Pileus fleshy, thin, broadly convex, sometimes a little depressed, smooth, pruinose, whitish with a dark lilac tinge; lamellæ narrow, crowded, decurrent, some of them forked at the base, whitish with a dull flesh colored tint; stem equal, silky-fibrillose, hollow; spores globose, minute, $\frac{1}{1000}$' long.

Plant gregarious, 2'–3' high, pileus 1'–2.5' broad, stem 3"–4" thick. Ground in woods. Greig. September. The pileus is sometimes lobed and excentric.

I take pleasure in naming this species for Hon. Horatio Seymour, in view of the interest he has manifested in the study of fungi.

AGARICUS ASPRELLUS *Fr.*

Swamps and sphagnous marshes. Sandlake. August.

AGARICUS SCABROSUS *Fr.*

Swamps. Sandlake. August.

AGARICUS (NOLANEA) CONICUS *n. sp.*

Pileus submembranaceous, conical, at length expanded, with a minute umbo or papilla, hygrophanous, dull watery cinnamon color and striatulate when moist, silky shining, subzonate and pale grayish cinnamon when dry; lamellæ close, rather narrow, nearly free, terminating before the margin of the pileus, bright flesh color; stem slender, straight, hollow, brown with white mycelium at the base; spores subovate, irregular, $\frac{1}{1000}$' long.

Plant 2' high, pileus 4"–10" broad, stem .5" thick. Among moss and on rotten wood in swamps. Sandlake. August.

AGARICUS (NOLANEA) DELICATULUS *n. sp.*

Pileus submembranaceous, convex, then expanded, smooth, hygrophanous, striatulate when moist, silky when dry, pinkish

white; lamellæ subdistant, rather broad, ventricose, slightly attached, white, then flesh-colored; stem long, slender, smooth, hollow, subpellucid, white, spores subelliptical, irregular, $\frac{1}{3500}$' long.

Plant fragile, 2'–3' high, pileus 6" broad, stem .5" thick. Sphagnous swamps. Sandlake. August.

AGARICUS (NOLANEA) CLINTONIANUS *n. sp.*

Pileus submembranaceous, broadly conical, sometimes expanded and wavy-margined, a little scabrous-squamulose on the disk, striate on the margin, whitish or light gray, the disk sometimes a little darker; lamellæ narrow, close, nearly free or easily separating from the stem, whitish, becoming pale flesh-colored; stem slender, equal, smooth, hollow, white, sometimes slightly tinged with yellow, with an abundant white mycelium at the base; spores subelliptical, irregular, $\frac{1}{3500}$' long.

Plant 2'–4' high, pileus 1'–1.5' broad, stem scarcely 1" thick. Swamps. Sandlake. August.

I take pleasure in naming this apparently rare species for Hon. G. W. Clinton, one of the most energetic and enthusiastic botanists of the State.

AGARICUS FLAMMANS *Fr.*

Old logs in woods. Greig. September. A most beautiful plant, preserving its color well in drying.

AGARICUS SQUARROSUS *Mull.*

Prostrate trunks of deciduous trees. Sandlake. August and September.

AGARICUS HETEROCLITUS *Fr.*

On an old beech log. Greig. September.

AGARICUS (PHOLIOTA) AGGERICOLA *n. sp.*

Pileus convex, at length slightly depressed, smooth, viscid in wet weather, slightly striatulate on the margin when moist, dark brown; lamellæ subdistant, decurrent-toothed, grayish; stem equal or slightly tapering upward, fibrous, solid, usually curved at the base, lighter colored than the pileus, white above the membranous annulus; spores elliptical, $\frac{1}{3500}$' long.

Plant 2'–3' high, pileus 1'–2' broad, stem 3"–5" thick. Banks by roadsides. Greig. September.

AGARICUS (NAUCORIA) HIGHLANDENSIS *n. sp.*

Pileus convex, sometimes expanded, smooth, viscid, yellowish-red, often paler on the margin; lamellæ close, rounded behind,

sometimes with a slight decurrent tooth, at length pale cinnamon color; stem equal, hollow, minutely floccose-scaly, yellowish; spores $\frac{1}{1000}$' long.

Plant gregarious, 1'–1.5' high, pileus 6"–12" broad, stem 1" thick. Burnt ground. Top of one of the "Highlands," near Highland Falls. June.

Allied to *A. semiorbicularis*, but easily separated from it by its more viscid pileus, paler lamellæ, squamulose stem and smaller spores.

AGARICUS (HEBELOMA) ILLICITUS *n. sp.*

Pileus fleshy, firm, broadly convex or expanded, smooth, hygrophanous, very dark brown when moist, a little paler when dry; lamellæ close, broad, tapering outwardly, plane or ventricose, rounded behind with a very slight decurrent tooth, pale dingy brown; stem firm, equal, hollow, scabrous, distinctly striate at the top, paler than the pileus, with a white mycelium; spores subelliptical, $\frac{1}{1000}$' long.

Plant compact, gregarious or cæspitose, 1.5'–2' high, pileus 1'–1.5' broad, stem 2" thick. Rotten sticks and logs in woods. Greig. September. (Plate 4, Figs. 1–3.) The habitat is unusual for species of this subgenus.

AGARICUS (HEBELOMA) ASCOPHORUS *n. sp.*

Pileus convex, smooth, viscid, pale alutaceous, often with a brighter colored disk; lamellæ moderately broad, close, emarginate, attached, pallid or subolivaceous, stem equal, short, stuffed or hollow, slightly fibrillose, paler than the pileus; spores produced in fragile, globose asci borne on a thick, tapering, penetrating peduncle, elliptical, $\frac{1}{1000}$' long.

Plant 1' high, pileus 6"–12" broad, stem scarcely 1" thick. Burnt ground in pastures. Greig. September. (Plate 3, Figs. 1–6.)

A species remarkable for the peculiar manner in which the spores are produced. There are a dozen or more in each ascus. Under slight pressure on the slide of the microscope the enveloping membrane bursts and separates from its peduncle which is of a firmer structure and bears some resemblance in size, shape and color to the spinules on the lamellæ of *A. spinulifer*. The viscid pellicle of the pileus is separable when dry.

AGARICUS (HEBELOMA) EXCEDENS *n. sp.*

Pileus thin, convex, gibbous or broadly umbonate, pale alutaceous inclining to russet; lamellæ rather broad, close, deeply emarginate, terminating before the margin, minutely eroded on the

edge, pallid, then brownish; stem equal, solid, silky-fibrillose, colored like the pileus; spores subelliptical, $\frac{1}{3500}$' long.

Plant 2' high, pileus 1' broad, stem 1'–2' thick. Sandy soil about pine trees. Saratoga. October.

Readily known by the thin margin extending beyond the lamellæ. It has the taste and odor of radishes.

AGARICUS (HEBELOMA) MUTATUS *n. sp.*

Pileus thin, firm, convex or broadly conical, gibbous or broadly umbonate, rough with squarrose fasciculate, floccose scales, which at length disappear except on the disk, dark brown; lamellæ broad, close, rounded and very deeply emarginate behind, attached by the extreme upper part only, dark ferruginous brown, edge whitish; stem slender, equal, solid, firm, floccose-scaly, often curved at the base, colored like the pileus; spores elliptical, $\frac{1}{3500}$' long.

Plant 2'–3' high, pileus 6'–12' broad, stem 1' thick. Damp ground in woods. Catskill mountains. July.

The changed appearance produced by the disappearance of the scales suggests the specific name.

AGARICUS (CREPIDOTUS) DORSALIS *n. sp.*

Pileus fleshy, sessile, dimidiate or subreniform, flat or slightly depressed behind, with a decurved slightly striate margin, slightly fibrillose-tomentose, distinctly tomentose at the point of attachment, reddish yellow; lamellæ close, ventricose, rounded behind, subemarginate, converging to a whitish, villous, lateral space, pale ochraceous brown; spores globose, $\frac{1}{4000}$' in diameter.

Pileus 8'–15' broad. Old logs in woods. Greig. September.

Allied to *A. putrigena* B. & C., but it is not imbricated, and differs in color, size of spores, etc. In general appearance it bears some resemblance to *Panus dorsalis*.

AGARICUS MOLLIS *Schæff.*

Old logs and rotten wood. Common. July, September.

AGARICUS VARIABILIS *Pers.*

Dead trunks of mountain maple, *Acer spicatum*. Indian Lake, Hamilton county. October.

AGARICUS HAUSTELLARIS *Fr.*

On prostrate trunks of poplars. Thurman, Warren county. October. A small form.

AGARICUS (CREPIDOTUS) GREIGENSIS *n. sp.*

Pileus submembranaceous, convex, dimidiate, hygrophanous, grayish cinnamon color and striatulate when moist, silky-fibrillose

when dry; lamellæ subdistant, free, grayish or pallid becoming dingy flesh-colored; stem lateral, short, solid, curved, fibrillose toward the base, springing from an abundant, white, radiating mycelium which sometimes creeps over the matrix to a considerable distance; spores subglobose, irregular, flesh-colored, about $\frac{1}{7500}'$ long.

Pileus 5"–10" broad, stem scarcely more than 1' long. Very rotten, mossy logs in woods. Greig. September.

The short stem is sometimes compressed in the middle so that it appears to be enlarged both above and below. This species belongs to the second division of the subgenus *Crepidotus* as characterized by Fries in the Epicrisis, and to the subgenus *Clavdopus* proposed by W. G. Smith, except that the lamellæ are free, neither sinuate nor decurrent. It is manifestly related to *A. byssisedus*.

AGARICUS (PILOSACE) EXIMIUS *n. sp.*

Pileus fleshy, thin, convex or broadly campanulate, at length expanded and subumbonate, smooth, dark sooty brown; lamellæ close, broad, ventricose, rounded behind, free, dull red or brownish pink, then brown; stem slender, hollow, a little thicker at the base, dull red; spores elliptical, $\frac{1}{7500}'$ long.

Plant 1' high, pileus 3"–6" broad, stem .5" thick. Old stumps in woods. Greig. September. Rare.

I am not aware that a representative of this subgenus has before been found in this country, and none is yet known to belong to the flora of England.

AGARICUS (PSILOCYBE) LIMICOLA *n. sp.*

Pileus thin, convex, then expanded, smooth, hygrophanous, dark watery brown and striatulate on the margin when moist, pale ochraceous brown and corrugate-wrinkled when dry; lamellæ close, rounded behind, attached, cinnamon-brown, becoming darker; stem slender, equal, brittle, silky, hollow above with a distinct separable pith below, whitish; spores elliptical-cymbiform, $\frac{1}{7500}'$ long.

Plant subcæspitose, 2' high, pileus 6"–12" broad, stem scarcely 1" thick. Damp muck soil in woods. Greig. September. (Plate 2, figs. 9–13.)

Related to *A. cornuus*, but more slender and fragile, with a different habitat, larger spores, etc.

AGARICUS (PSATHYRELLA) ODORATUS *n. sp.*

Pileus thin, fragile, ovate-convex, at length expanded, smooth, hygrophanous, dark reddish brown or chestnut colored and stria-

tulate on the margin when moist, dirty white or clay colored with a pinkish tinge, subatomaceous and radiately wrinkled when dry; lamellæ close, broad, attached, with a slight spurious decurrent tooth, dingy flesh color, then rosy brown, finally black with a whitish edge; stem pallid, equal, hollow, slightly enlarged at the base, slightly mealy and striate at the top, subfibrillose when young, with a white mycelium at the base; spores elliptical cymbiform, $\frac{1}{1700}$' long.

Plant 2'–3' high, pileus 1'–2' broad, stem 1'–2' thick. About manure heaps. West Albany. May.

It is gregarious or subcæspitose, and has a strong odor resembling that of the "poison elder," *Sambucus pubens*. The pileus is sometimes split on the margin and occasionally cracked on the surface.

COPRINUS RADIATUS *Bolt.*

Horse dung. Sandlake. August.

COPRINUS SILVATICUS *n. sp.*

Pileus membranaceous, with a thin fleshy disk, convex, plicate-striate on the margin, dark brown, the depressed striæ paler; lamellæ subdistant, narrow, attached to the stem, brownish; stem fragile, slender, smooth, hollow, white; spores gibbous-ovate, $\frac{1}{1700}$' long.

Plant 2' high, pileus 6"–10" broad, stem .5" thick. Ground in woods. Greig. September. (Plate 4, figs. 10–14.)

The striæ extend about half way up the pileus. Allied to *C. plicatilis* and *C. ephemeris*.

COPRINUS SEMILANATUS *n. sp.*

Pileus submembranaceous, broadly conical, then expanded and strongly revolute, with the margin sometimes split, farinaceo-atomaceous, finely and obscurely rimose-striate, pale grayish brown; lamellæ narrow, close, free; stem elongated, fragile, hollow, slightly tapering upward, white, the lower half clothed with loose cottony flocci which rub off easily, the upper half smooth or slightly farinaceous; spores broadly elliptical, $\frac{1}{2000}$' long,

Plant very fragile, 4'–6' high, pileus 8"–12" broad, stem 1" thick at the base. Rich ground and dung. Sandlake. August. (Plate 4, figs. 15–18.) Allied to *C. cŏpertus*.

BOLBITIUS NOBILIS *n. sp.*

Pileus thin, fleshy on the disk, ovate, then campanulate, smooth, plicate-striate, pale yellow, the disk tinged with red, the margin at

length recurved and splitting; lamellæ sub-distant, tapering outwardly, attached, the alternate ones more narrow, pale yellow with a darker edge; stem long, equal, smooth, striate at the top, hollow, white.

Plant cæspitose, 3′–5′ high, pileus 1′ broad, stem 1″ thick. Ground in woods. Greig. September. (Plate 2, figs. 1–4.)

A fine large species but probably rare.

CORTINARIUS (PHLEGMACIUM) CORRUGATUS *n. sp.*

Pileus fleshy, broadly campanulate or convex, smooth, viscid, coarsely reticulate-rugose, bright yellow, the margin incurved; lamellæ close, a little narrowed behind, attached, minutely eroded on the edge, pallid, then pale cinnamon; stem stout, cylindrical, smooth, hollow, bulbous, whitish or pale yellow, the bulb viscid and colored like the pileus; spores subglobose or broadly elliptical, echinulate, $\frac{1}{3000}$–$\frac{1}{3000}$′ long.

Plant 3′–5′ high, pileus 2′–3′ broad, stem 6″–8″ thick. Ground among leaves under *Kalmia latifolia*. Highlands. June.

The flesh is white; the bulb immarginate, in some specimens almost obsolete. A very distinct, noble species.

CORTINARIUS (PHLEGMACIUM) OLIVACEUS *n. sp.*

Pileus fleshy, convex, then expanded, smooth, viscid, dark brown with a greenish or olivaceous tinge; lamellæ close, rather broad, at length ventricose, dark olivaceous, then cinnamon colored; stem equal, bulbous, silky, stuffed or hollow, white-violaceous; spores elliptical, with a transparent nucleus, $\frac{1}{3000}$′ long.

Plant 3′–4′ high, pileus 2′ broad, stem 4″–6″ thick. Ground in woods. Greig. September.

The flesh of the stem is violaceous, of the pileus grayish.

CORTINARIUS BOLARIS *Fr.*

Ground in woods. Greig. September.

CORTINARIUS (INOLOMA) ASPER *n. sp.*

Pileus fleshy, firm, hemispherical, then convex, rough with minute, erect, brown scales, ochraceous; lamellæ close, rounded behind and slightly emarginate, dull violaceous, then pale cinnamon; stem equal, bulbous, solid, fibrillose-scaly, colored like the pileus but smooth and violaceous at the top, the bulb white with an abundant mycelium; spores broadly elliptical, with a pellucid nucleus, $\frac{1}{3000}$′ long.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick. Ground in cleared places. Greig. September. (Plate 1, figs. 1–3.) A fine species. The flesh of the stem is violaceous.

Cortinarius evernius *Fr.*

Low wet grounds in woods. Sandlake. August. Our specimens do not quite agree with the description, the stem being silky-fibrillose, not scaly.

Gomphidius viscidus *Fr.*

Ground in pine woods. Sandlake and West Albany. October.

Hygrophorus puniceus *Fr.*

Ground in woods. Greig. September.

Hygrophorus lætus *Fr.*

Ground in cleared places, growing under *Pteris aquilina*. Greig. September.

Hygrophorus psittacinus *Fr.*

Ground in open places. Greig. September.

Lactarius insulsus *Fr.*

Damp ground in open woods. Greenbush. July.

Lactarius trivialis *Fr.*

Ground in woods. Poughkeepsie. *W. R. Gerard.* Greig. September.

Our plant does not agree rigidly with the description, the pileus being sometimes zonate and the stem rather slender and not always hollow. The lamellæ and flesh slowly change to a greenish or olivaceous color when wounded, though the milk is unchangeable. Future observation may show it to be a distinct species, but at present I prefer to consider it an aberrant form of *L. trivialis*.

Lactarius cinereus *n. sp.*

Pileus fleshy, at length expanded, centrally depressed, usually umbilicate, smooth, viscid, light gray with the disk sometimes a little darker; lamellæ narrow, close, white; stem equal or slightly tapering upward, smooth, stuffed, colored like the pileus; spores $\frac{1}{1500}'$–$\frac{1}{1000}'$ in diameter. Flesh and milk white, unchangeable, taste acrid.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 3″–4″ thick. Ground in woods. Sandlake and Greig. August and September. Allied to *L. vietus*.

LACTARIUS SERIFLUUS *DC.*

Swamps in woods. Sandlake and Greig. Our plant has a hollow stem and the color of burnt sienna—particulars in which it disagrees with the description of *L. seriflŭus;* but the scanty watery or serum-like milk is well shown by it. This is a large but very fragile species, and much subject to the attack of insects. When dry it has a decided but agreeable odor.

LACTARIUS CHELIDONIUM *n. sp.*

Pileus fleshy, firm, centrally depressed, smooth, slightly viscid, of a grayish-green color with blue and yellow tints and a few narrow zones on the margin; lamellæ close, narrow, forked and wavy at the base, sometimes anastomosing, grayish yellow; stem short, subequal, smooth, hollow, colored like the pileus; spores yellowish, $\frac{1}{3000}$' in diameter.

Plant 2' high, pileus 2' broad, stem 4"–6" thick. Sandy soil about pine trees. Saratoga. October.

Taste mild, milk sparse, of a yellowish color resembling the juice of Celandine or the liquid secreted from the mouth of grasshoppers. The flesh when wounded is at first stained with a color like the milk, then changes to blue and finally to green. Closely allied to *L. deliciosus*, from which it differs in its more narrow lamellæ, differently colored milk, smaller spores, etc.

LACTARIUS FUMOSUS *n. sp.*

Pileus firm, convex, then expanded and slightly depressed in the center, smooth, dry, smoky brown, or sordid white; lamellæ close, adnate or slightly rounded behind, white, then yellowish; stem firm, short, smooth, stuffed, generally tapering downward; spores distinctly echinulate, yellow, $\frac{1}{2500}$' in diameter; flesh and milk white; taste at first mild, then acrid.

Plant 1.5'–2' high, pileus 1.5'–2.5' broad, stem 3"–5" thick. Grassy ground in open woods. Greenbush. July.

The peculiar smoky hue of the pileus and yellow spores enable this species to be easily recognized. The flesh when wounded slowly changes to a dull pinkish color. Related to *L. fuliginosus.*

RUSSULA VIRESCENS *Fr.*

Grassy ground. Albany and Greenbush. June and July.

RUSSULA RUBRA *Fr.*

Ground in a wooded ravine. Albany Rural Cemetery. July.

RUSSULA MARIÆ *n. sp.*

Pileus fleshy, convex, subumbilicate, at length expanded and centrally depressed, minutely pulverulent, bright pink red (crimson

lake), the disk a little darker, margin even; lamellæ rather close, reaching the stem, some of them forked, venose-connected, white, then yellowish, stem equal, solid, colored like the pileus except the extremities which are usually white; spores globose, nearly smooth, $\frac{1}{3000}'$ in diameter; flesh of the pileus white, red under the cuticle, taste mild.

Plant 2′ high, pileus 1.5′–2′ broad, stem 3″–6″ thick. Dry ground in woods. Catskill mountains. July.

The minute colored granules, which give the pileus a soft pruinose appearance, are easily rubbed off on paper, and water put upon the fresh specimens is colored by them.

Russula similimus *n. sp.*

Pileus hemispherical or convex, then expanded, slightly depressed, at first or when moist viscid, the margin at length tuberculate-striate, pale ochraceous yellow, the disk usually a little brighter colored; lamellæ subequal, reaching the stem, some of them forked behind, venose-connected, yellowish from the first; stem equal or slightly tapering upward, spongy within, rarely hollow, colored like the pileus, sometimes a little paler; spores $\frac{1}{3000}'$ in diameter; taste acrid.

Plant 2′–4′ high, pileus 1′–3′ broad, stem 4″–9″ thick. Ground in woods. Greig. September.

Allied very closely to *R. fœtens*, from which it differs by the absence of any marked odor and the margin not so widely striate. I have never seen it cæspitose nor growing in cleared lands.

Paxillus involutus *Batsch.*

Ground in woods. Greig and North Elba. August and September.

Cantharellus cinereus *Fr.*

Ground in woods and shaded ravines. Albany Rural Cemetery and Greig. July, September. The form growing in the latter locality is nearly black.

Plicatura *nov. gen.*

Hymenophorum descending into the trama. Hymenium continuous, plicæform; folds irregular or wavy, edge obtuse.

Plants of a firm coriaceous texture, reviving on the application of moisture.

This genus is related, by the obtuse edge of the folds, to *Cantharellus* on one hand, and by its texture and continuous hymenium to *Marasmius* on the other. From *Xerotus* it is separated by the irregular character of the folds. The only species at present known to me in this genus is the epiphytal species here described,

though it seems to me that *Cantharellus crispus* should find a place in it as that species certainly is closely related and revives on the application of moisture.

PLICATURA ALNI *n. sp.*

Pileus thin, coriaceous, resupinate-reflexed, generally imbricated, silky-tomentulose, brownish-tawny, the margin sterile; folds narrow, irregular, interrupted, wavy or crisped, angular, white. Pileus 8″–12″ broad.

On trunks of alders. Indian Lake and Center. October.

In color and habit this plant has some resemblance to *Cantharellus crispus*. It is somewhat flabby, and in drying, the folds to some extent disappear, but they soon assume their original size and shape on the application of moisture.

MARASMIUS STRIATIPES *n. sp.*

Pileus convex, smooth, even, pale alutaceous; lamellæ rather broad, subdistant, rounded behind, attached, white; stem equal or slightly thickened at the base, firm, hollow, distinctly striate, pruinose-tomentose, whitish with an abundant white mycelium.

Plant 2′–4′ high, pileus 2′ broad, stem 2″–3″ thick. Ground among leaves in woods. Greig. September.

MARASMIUS ANOMALUS *n. sp.*

Pileus thin, convex, smooth, reddish-gray; lamellæ close, narrow, rounded behind and united with each other, free, whitish or pallid; stem equal, hollow, smooth or slightly pruinose, pallid, reddish brown at the base.

Plant 1′–2′ high, pileus .5′–1′ broad, stem 1″ thick. Sticks among leaves in woods. Catskill. July.

It resembles *M. plancus* from which it may be separated by its smooth stem and free lamellæ.

MARASMIUS PERFORANS *Fr.*

Fallen leaves of spruce trees, *Abies nigra*. Sandlake and Greig. August and September.

MARASMIUS CANDIDUS *Fr.*

Fallen leaves. Greenbush. July.

MARASMIUS PAPILLATUS *n. sp.*

Pileus submembranaceous, convex, then expanded, with a small umbo or papilla, obscurely striate on the margin, dirty white or gray, sometimes with a pinkish hue; lamellæ narrow, close, attached, with a slight decurrent tooth, white or yellowish; stem

slender, firm, hollow, colored like the pileus, pruinose, deeply rooting.

Plant 1′–2′ high, pileus 4″–10″ broad, stem .5″ thick. On rotten, mossy logs in woods. Sandlake and Greig. September.

MARASMIUS DECURRENS *n. sp.*

Pileus thin, convex, minutely tomentulose, grayish or tawny; lamellæ arcuate-decurrent, subdistant, narrow, tapering toward each end, whitish with discolored edge, interspaces rugose-reticulated; stem slender, firm, equal, gray, minutely tomentulose.

Plant subcæspitose, 1′–2′ high, pileus 4″–6″ broad, stem .5″ thick. Ground in a shaded ravine. Albany Rural Cemetery. July.

A species remarkable for the peculiar characters of the lamellæ. It is apparently allied to *M. clavæformis*.

MARASMIUS PULCHERRIPES *n. sp.*

Pileus membranaceous, campanulate, obtuse, distantly striate, dry, smooth, of a soft maroon or vinous red color; lamellæ few, distant, narrow, ascending, free; stem tough, smooth and shining, brownish-black, clear red at the top.

Plant 1′–1.5′ high, pileus 2″–4″ broad, stem not half a line thick. Sticks and acerose leaves among moss in woods. Garrisons. June. (Plate 4, figs. 19–22.)

The transition from the black to the red portion of the stem is sudden and well defined. The free space at the inner extremity of the lamellæ is red like the apical part of the stem.

MARASMIUS FILOPES *n. sp.*

Pileus membranaceous, convex, distantly and obscurely radiate-striate, subumbilicate, white; lamellæ few, distant, attached, white; stem smooth, elongated, thread-like, flexuous, inserted, whitish, sometimes brownish at the base.

Plant gregarious, 1′–1.5″ high, pileus about 1″ broad, stem scarcely thicker than hog bristles.

Fallen leaves of balsam trees, *Abies balsamea*. Indian Lake. October. (Plate 4, figs. 27–29.)

A remarkably slender and delicate species. There are about a half dozen lamellæ with now and then an intermediate short one.

PANUS SALICINUS *n. sp.*

Pileus firm, thin, convex, deflexed or subpendant, hygrophanous, minutely farinaceo-tomentose, pinkish-gray; lamellæ moderately broad and close, converging to an excentric point, dark ferruginous; stem very short or obsolete, obliquely attached to the vertex of the pileus.

Plant gregarious, pileus 4″–6″ broad. Trunks of dead willow, *Salix discolor*. Center. October.

BOLETUS BICOLOR *n. sp.*

Pileus fleshy, firm, convex, dry, nearly smooth or pruinose-tomentose, dark red, tubes plane, attached, small, angular, subcompound, short, bright yellow becoming ochraceous, slightly changing to blue when wounded; stem subequal, firm, solid, dark red, sometimes yellow at the top; spores narrowly elliptical, $\frac{1}{5000}'$ long; flesh bright yellow, unchanging when wounded; taste pleasant.

Plant closely gregarious 2′ high, pileus 2′ broad, stem 4″–6″ thick. Ground in open woods. Sandlake. August. (Plate 2, figs. 5–8.)

The tubes are not more than 1″ long in our specimens Allied to *B. sulfureus*, but very different in color.

BOLETUS GRACILIS *n. sp.*

Pileus convex, dry, smooth or most minutely tomentose, ochraceous-brown; tubes plane, subfree or depressed about the stipe, small, subrotund, whitish then pale flesh-colored; stem slender, equal or slightly tapering upward, solid, marked with slender, elevated lines which anastomose and form very long narrow reticulations; spores flesh-colored, $\frac{1}{5000}'$ long.

Plant 4′–6′ high, pileus 2′ broad, stem 3″–4″ thick. Ground in woods. Garrisons and Greig. June. September.

Closely allied to *B. felleus*, but the plant is much more slender, and the character of the reticulations is quite different.

POLYPORUS PORIPES *Fr.*

Ground. New Baltimore, *Howe*. Sandlake. August. A large tufted species with the pores running far down on the stipe.

POLYPORUS FRONDOSUS *Fr.*

Buffalo. *Clinton*.

POLYPORUS GLOMERATUS *n. sp.*

Pileus of a corky texture, densely imbricated, nearly plane, uneven, minutely velvety-tomentose, dark tawny, similarly colored within and obscurely zonate, united behind in a large irregular mass; pores nearly plane, small, angular, greenish-yellow with purple tints, the mouths whitish inclining to yellow, at length dentate-lacerate; spores bright yellow, globose, $\frac{1}{5000}'$ in diameter.

Plant forming masses a foot long and 2′ or 3′ thick, the pilei 1′–1.5′ long, 2′ or more broad.

On a prostrate trunk of a maple tree, *Acer saccharinum*. Indian Lake. October.

The central mass was much eaten by the larvæ of insects.

POLYPORUS RUBIGINOSUS *Rostk.*

Trunks of deciduous trees. Indian Lake. October.

POLYPORUS MARGINATUS *Fr.*

Stumps and old trunks of trees. Indian Lake. October.

POLYPORUS FUMOSUS *Fr.*

Old stumps. Hoosick Falls, Rensselaer county and Indian Lake. September and October.

POLYPORUS BETULINUS *Fr.*

Trunks of dead birches. Common in swamps and mountainous districts. September, November.

The lower surface or hymenium is frequently rough with numerous acicular projections, making the plant look like a Hydnum when viewed horizontally.

POLYPORUS CÆSIUS *Fr.*

On dead shrubs. Indian Lake. October.

POLYPORUS ZONATUS *Fr.*

Dead branches. Greenbush. The specimens are very dark colored.

POLYPORUS VELUTINUS *Fr.*

Old stumps. Greig. September.

POLYPORUS ELONGATUS *Berk.*

Prostrate poplar trunks. Thurman. October. It resembles *P. laceratus.*

POLYPORUS VITICOLA *Fr.*

Dead grape-vines. Greenbush. October.

POLYPORUS VAILLANTII *Fr.*

On wood in cellars. Albany. November and December. Our specimens, when fresh, have a strong odor.

POLYPORUS VESICULOSUS *B. & C.*

Old logs. Johnsburgh, Warren county. October.

POLYPORUS CORTICOLA *Fr.*

Rotten wood. Center. October.

TRAMETES SEPIUM *Berk.*

Oak fence rails. Greenbush. October.

HYDNUM FERRUGINEUM *Fr.*

Ground. Sandlake. August.

HYDNUM ZONATUM *Batsch.*

Fallen branches. Albany and Trenton Falls. September.

HYDNUM PITHYOPHILUM *B. & C.*

Rotten wood. Johnsburgh. October.

KNEIFFIA SETIGERA *Fr.*

Dead branches of alders. Center. October.

KNEIFFIA CANDIDISSIMA *B. & C.*

Rotten wood. Indian Lake. October.

ODONTIA FIMBRIATA *Fr.*

Dead grape vines. Greenbush. October.

PHLEBIA RADIATA *Fr.*

Beech logs in woods. Buffalo. *Clinton.* Greig and Indian Lake. September, October.

PHLEBIA ZONATA *B. & C.*

On poplar trunks. Greenbush. October.

TREMELLA FOLIACEA *Pers.*

Stumps and old logs. Buffalo. *Clinton.* Greenbush. July.

GUEPINIA SPATHULARIA *Fr.*

Beech logs. Greig. Buffalo. *Clinton.*

STEREUM ALBOBADIUM *Schw.*

Stumps and trees. Greenbush. October.

STEREUM CURTISII *Berk.*

Oak trees and branches. Greenbush. October.

STEREUM RUGOSUM *Fr.*

Prostrate trunks of trees. Sandlake and Johnsburgh. August, October.

CORTICIUM INCARNATUM *Fr.*

Dead trunks and branches of trees. Greenbush. October.

CORTICIUM LIQUIDAMBARIS *B. & C.*

Poplar trunks and branches. Greenbush and Center. October.

CORTICIUM SALICINUM *Fr.*

Dead trunks and branches of willows, especially *Salix discolor*. Buffalo. *Clinton*. Center and Indian Lake. October.

One of the prettiest species of the genus. Large specimens sometimes have the hymenium reticulated with vein-like elevations.

CORTICIUM SCUTELLATUM *B. & C.*

Branches of trees. Fort Edward. *Howe*. Greenbush. July.

CORTICIUM RUBICOLA *B. & C.*

Stems of the blackberry. Greenbush. October.

CORTICIUM AUBERIANUM *Mont.*

Bark of dead pine trees. Greenbush. October.

CRATERELLUS LUTESCENS *Fr.*

Swamps. Sandlake and Greig. August and September.

It is sometimes so much lobed and imbricated on the margin that it has a roseate appearance.

THELEPHORA CORALLOIDES *Fr.*

Ground in open woods. Greenbush. July.

THELEPHORA TUBEROSA *Grev.*

With the preceding.

THELEPHORA CARYOPHYLLÆA *Fr.*

Damp shaded ground in a ravine. Albany Rural Cemetery. July.

THELEPHORA SEBACEA *Fr.*

Incrusting grasses, leaves and small plants. Catskill mountains. July.

CLAVARIA FLAVA *Fr.*

Ground in woods. Albany Rural Cemetery. July.

CLAVARIA CINEREA *Bull.*

With the preceding. July.

CLAVERIA KUNZEI *Fr.*

Damp soil near swamps or streams. Sandlake and Greig. August and September.

CLAVARIA APICULATA *Fr.*

Very rotten mossy hemlock logs. Sandlake and Greig. August and September.

CLAVARIA CRISPULA *Fr.*

Rotten wood of deciduous trees. Greig. September.

CLAVARIA TRICHOPUS *Pers.*

Sphagnous swamps. Sandlake. August.

Fries considers this a variety of *C. cristata*, but it seems to me to be very distinct and well marked by the hairy stem, not confluent with the hymenium.

CLAVARIA TETRAGONA *Schw.*

Ground in shaded places. Sandlake and Greig. Poughkeepsie, *Gerard*. August and September.

CLAVARIA FRAGILIS *Holmsk.*

Shaded ground in ravines. Albany Rural Cemetery. July.

CLAVARIA ARGILLACEA *Fr.*

Ground. Catskill mountains. July.

CLAVARIA MUCIDA *Pers.*

Soft moist rotten wood. Buffalo. *Clinton*. Indian Lake. October. A green confervoid stratum overspreads the wood where it grows.

CLAVARIA SPINULOSA *Pers.*

Ground under pine trees. Sandlake and West Albany. August, October.

CLAVARIA LIGULA *Fr.*

Ground in woods among fallen leaves. Helderberg mountains.

CALOCERA CORNEA *Fr.*

Rotten wood and fallen branches. North Greenbush and Greig. Buffalo. *Clinton*. July, September.

CALOCERA PALMATA *Fr.*

Old beech logs. Greig and Indian Lake. September and October.

CALOCERA VISCOSA *Fr.*

Rotten stumps in woods. Sandlake. August.

EXIDIA REPANDA *Fr.*

Dead branches of deciduous trees. Common. Spring and autumn.

NÆMATELIA NUCLEATA *Fr.*

Decaying trunks and branches of deciduous trees. Johnsburgh and Center. October.

NÆMATELIA ATRATA *n. sp.*

Flat, effused, pallid or brownish, at length black; nuclei numerous, scattered or close, rather large, often rugose and umbilicate soon black.

Dead branches of bass wood, *Tilia Americana*. Helderberg mountains and Greenbush. May.

Very distinct by reason of the black nuclei.

CYPHELLA FULVA *B. & R.*

Dead branches of alders. Common. October and November.

PHALLUS IMPUDICUS *Fr.*

Ground among leaves. Buffalo. *Clinton*. Thurman. October.

CORYNITES RAVENELII *Berk.*

Ground. Albany Rural Cemetery.

Our plant has a very strong odor and is not at all attenuated toward the base—particulars in which it does not agree with the description, but they are scarcely to be regarded of specific importance.

A species of Corynites, possibly the same as this, has been found near Utica by Judge A. S. Johnson and Hon. Horatio Seymour, but I have seen no specimens.

GEASTER MINIMUS *Schw.*

Grassy ground. Knowersville, Albany county. May.

LYCOPERDON ATROPURPUREUM *Vitt.*

Grassy ground. West Albany, October. A single specimen.

LYCOPERDON MOLLE *Pers.*

Swamps. Sandlake. August. This is thought by some to be a variety of *L. gemmatum*, but it appears to me to be quite distinct.

LYCOPERDON SUBINCARNATUM *n. sp.*

Peridium globose, sessile, bursting at the apex by a circular aperture, rough, with equal, close, subpyramidal, persistent brown-

ish scales or granules; spores greenish-ochre, filling almost the entire cavity.

Plant 6″–10″ in diameter, generally of a pinkish-brown color, with but little cellular tissue at the base. The peridium is more thin than it is in *L. pyriforme*, but not so brittle.

Rotten wood in woods. Sandlake and Greig. August and September.

SCLERODERMA BOVISTA *Fr.*

Grassy ground. Greenbush and Albany. July.

STEMONITIS FUSCA *Roth.*

Rotten wood. Buffalo. *Clinton.* Helderberg mountains. June. Darker colored than *S. ferruginea.*

ARCYRIA PUNICEA *Pers.*

Rotten wood. Greenbush. July.

TRICHIA PYRIFORMIS *Hoffm.*

Rotten wood and bark. Buffalo. *Clinton.* Center. October.

TRICHIA CHRYSOSPERMA *DC.*

Among mosses. Sandlake. August.

TRICHIA VARIA *Pers.*

Bark of an old log. Helderberg mountains. May.

TRICHIA SERPULA *Pers.*

Rotten wood, etc. Buffalo. *Clinton.* Center. October.

DIDYMIUM SQUAMULOSUM *A. & S.*

Bark of dead branches. Sandlake.

DICTYDIUM MAGNUM *n. sp.*

Peridium globose, thin, fragile, irregularly reticulated, purplish-blue, pruinose; stem elongated, filiform, whitish or straw color; spores globose, black, $\frac{1}{1500}'$ in diameter.

On some effete Polyporus and wood impregnated with its mycelium. Center. October.

The stems are 4″–6″ long, and in the dry specimens they become twisted and entangled so that it is difficult to separate a plant from the cluster. The peridia are about $\frac{1}{16}'$ in diameter, rupture irregularly, are iridescent and look like small clusters of miniature grapes or little blue berries.

HYSTEROTHYRIUM SMILACIS *De Not.*

Dead stems of Smilax. Sag Harbor, L. I. and Garrisons. June and July.

LEPTOSTROMA VULGARE *Fr.*

Dead stems of herbs. Buffalo. *Clinton*. Greenbush. June.

PHOMA AMPELINUM *B. & C.*

Dead stems of grape vines. Sandlake and Greenbush. June and July.

PHOMA LIBERATUM *B. & C.*

On fallen pine leaves. Center. October.

PHOMA MENISPERMI *n. sp.*

Perithecia small, scattered, elevated, black, shining, seated on the inner bark, bursting through the epidermis, spores minute.

Dead stems of *Menispermum Canadense*. Greenbush. November.

Little white spots remain where the perithecia are broken away. Sometimes, in a favorable light, little elevated lines may be seen extending from one perithecium to another.

SPHÆRONEMA SUBTILE *Fr.*

Rotten wood. Buffalo. *Clinton*.

SPHÆRONEMA SUBULATUM *Fr.*

Decaying Agarics. Helderberg mountains. June.

SPHÆRONEMA PRUINOSUM *n. sp.*

Perithecia scattered, seated on the inner bark, erumpent through the epidermis, elongated-conical or short spiniform, blunt, black, pallid or yellowish at the base, more or less pruinose: globule hyaline; spores large, oblong, $\frac{1}{1000}'$ long.

Dead branches of *Amelanchier Canadensis*. Garrisons. June.

The branch is roughened by the projecting perithecia, which are sometimes so pruinose that it appears to be dotted with little white spots.

SPHÆRONEMA CORYLI *n. sp.*

Perithecia innate in the exterior bark, very numerous, minute, slightly elevated, truncated, black, easily separating from the matrix; spores oblong or elliptical, $\frac{1}{1800}'$ in length.

Dead branches of *Corylus Americana*. West Albany. July.

The perithecia are rather fragile, and when moist are easily compressed on the slide of the microscope, so that the jointed filaments which enter into their structure are plainly discernible.

SPHÆRONEMA ACERINUM *n. sp.*

Perithecia innate in the bark, bursting through the epidermis, conico-hemispherical below, with a long, slender, more or less flexuous or curved point above, black or brownish black; spores elliptical, generally with one or two pellucid nuclei.

Dead trunks and branches of the red maple, *Acer rubrum*. Greenbush, Sandlake and Indian Lake. April, October.

The perithecia are numerous and somewhat seriately placed. Their bristle-like points give to the branch a hispid or strigose appearance.

SPHÆROPSIS PULCHELLA *B. & C.*

Dead branches of sumach, especially of *Rhus glabra*.

SPHÆROPSIS ANOMALA *n. sp.*

Perithecia cæspitose, black, seated on the inner bark and bursting through transverse chinks, ostiole papillate; spores oblong, $\frac{1}{1500}'$ long.

Bark of dead cherry trees. Albany. *R. Prescott.*

The aspect of this species is that of *Tympanis conspersa Fr.*, but the fructification is that of a Sphæropsis.

SPHÆROPSIS MENISPERMI *n. sp.*

Perithecia numerous, prominent, black, at first covered by the epidermis, which at length bursts, revealing the apex of the perithecia; spores oblong, $\frac{1}{1500}'$ long.

Dead stems of *Menispermum Canadense*. Greenbush. November. Buffalo. *Clinton.*

The stem is roughened by the prominent perithecia, and the epidermis of the bark gives them a shining appearance.

VERMICULARIA DEMATIUM *Fr.*

Dead stems of herbs. West Albany. May.

VERMICULARIA OVATA *Schw.*

Dead stems of herbs. Greenbush. May.

DISCOSIA ARTOCREAS *Fr.*

Fallen oak leaves. Greenbush.

MELANCONIUM BICOLOR *Nees.*

Dead branches of the white birch, *Betula populifolia* Center. June.

DISCELLA OBSCURA *B. & C.*

Dead branches of *Acer spicatum*. Knowersville. July.

CORYNEUM CLAVÆSPORIUM *n. sp.*

Spores long, slightly curved, club-shape, obtuse, multiseptate, seated on a hard, subglobose, black disk.

Dead branches of ash trees, *Fraxinus Americana*. Knowersville. May.

The spores easily break from the disk, which then might be taken for a *Sclerotium*. The articulations of the club sometimes contain paler subquadrate spaces within which is a globule or nucleus.

NEMASPORA AUREA *Fr.*

Dead branches of *Carpinus Americana*. Greenbush. May. The spores in our specimens form a globule rather than tendrils.

NEMASPORA RUSSELLII *B. & C.*

Dead branches of locust trees, *Robinia pseudacacia*. Albany. June.

SEPTORIA VIOLÆ *Desm.*

Leaves of *Viola cucullata*. West Albany. May.

SEPTORIA PHLYCTÆNOIDES *B. & C.*

Dead stems of *Asparagus officinalis*. Knowersville. June.

SEPTORIA HIPPOCASTANI *B. & Br.*

Leaves of *Æsculus Hippocastanum*. Albany. June.

SEPTORIA NABALI *B. & C.*

Early or radical leaves of Nabalus. Buffalo. *Clinton*. Greenbush and Sandlake. May.

SEPTORIA ERIGERONIS *n. sp.*

Spots small, orbicular, distinct, rarely confluent, arid, surrounded by a dark brown or blackish line; perithecia minute, black on the upper surface of the leaf; spores thread-shaped, simple, $\frac{1}{1000}'$ long or more.

Leaves of *Erigeron annuum*. Greenbush. July. The spots are 1″–2″ in diameter.

SEPTORIA LOBELIÆ *n. sp.*

Spots orbicular, frequently confluent, arid, of a pallid or pale cream color, surrounded by a broad, blackish or brownish-purple margin; perithecia minute, numerous, close, black, appearing on both sides of the leaf; spores thread-shaped, simple, $\frac{1}{1500}'$–$\frac{1}{1000}'$ long.

Leaves of *Lobelia spicata*. Nassau, Rensselaer county. June. The spots are generally 1″–2″ in diameter. The colored margin is usually paler as it recedes from the spot.

CYTISPORA MELASPERMA *Fr.*

Dead branches of birches. Sandlake. May.

CYTISPORA PARVA *B. & C.*

Dead branches of *Robinia pseudacacia*. Garrisons. June.

CYTISPORA CORYNEOIDES *B. & C.*

Dead grape-vines. Greenbush. July.

CYTISPORA HYALOSPERMA *Fr.*

Dead branches of *Acer rubrum*. Sandlake. May.

TORULA POPULINA *n. sp.*

Spore threads aggregated in minute tufts, situated on the under surface of the leaf, on arid, orbicular, distinct or sub-confluent brown spots, with one to three strictures, breaking up into oblong-elliptical, subacute spores.

Leaves of *Populus grandidentata*. Luzerne, Warren county. June.

The spots have a dark, well defined margin and a reddish-brown color on the upper surface of the leaf. At first sight, they suggest the idea of a *Depazea* or a *Septoria*.

UREDO HELIANTHI *Schw.*

Leaves of Helianthus. Buffalo. *Clinton*.

UREDO ASPIDIOTUS *n. sp.*

Spots yellow or greenish-yellow, oblong, acute at the ends, often slightly curved, usually distinct and limited by veinlets, sometimes confluent; sori small, rotund, a little elevated, one to three on each spot, on the upper surface of the frond; spores yellow, ovate or pyriform, $\frac{1}{365}$′ long, a little more than half as wide.

Fronds of *Phegopteris Dryopteris*. Catskill mountains. July. (Plate 1, figs. 18–20.)

At a little distance the fronds on which this fungus grows appear as if infested by a yellow scale insect, so exactly do the spots resemble the shape of some species of *Aspidiotus*. *U. Filicum* has subglobose spores and the sori occur on the under surface of the frond.

UREDO ÆCIDIOIDES *n. sp.*

Spots obliterated, sori amphigenous, bullate, small, scattered or close; spores globose, at first covered by the epidermis, then sur-

rounded by its ruptured remains, bright yellow or orange, $\frac{1}{1000}'$ in diameter.

Leaves, petioles and stems of *Amphicarpæa monoica*. Common. June and July.

When the sori are evacuated, the rather firm epidermis walls remain, forming a little cup with a narrow mouth and resembling the cups of some species of *Æcidium*.

TRICHOBASIS IRIDICOLA *n. sp.*

Sori amphigenous, rotund, oval or oblong, rarely linear, a little elevated, surrounded by the ruptured remains of the epidermis; spores globose, minutely echinulate, brown, $\frac{1}{1000}'$ in diameter.

On both sides of living and half dead leaves of *Iris versicolor*, frequently occupying nearly the whole surface of the leaf. Sandlake. September. (Plate 3, figs. 17–19.)

Uredo Iridis Schw. is described as having yellow-ferruginous spores, and is placed in his section "Rubigines," whereas, our species would belong to his section "Fuscescentes et Nigredines."

TRICHOBASIS GALII *Lev.*

Leaves of some *Galium*. New Baltimore. June. *Howe*.

TRICHOBASIS LABIATARUM *Lev.*

Leaves of *Calamintha Clinopodium*. Buffalo. *Clinton*.

TRICHOBASIS SUAVEOLENS *Lev.*

Leaves of Canada thistle. Common. June and July.

USTILAGO LONGISSIMA *Tul.*

Leaves of *Poa aquatica*. West Albany. June and July.

Our specimens are not as dark colored as the European ones we have seen, and the spores are a very little larger.

USTILAGO MONTAGNEI *Tul.*

Spikes of *Rhynchospora alba*. Sandlake. August.

LECYTHEA ROSÆ *Lev.*

Leaves of rose bushes. New Baltimore. *Howe*.

UROMYCES POLYGONI *Fuckel.*

Stems of *Polygonum aviculare*. New Baltimore. *Howe*. Sandlake. November.

The species is remarkable for the long thick pedicel, which is sometimes four or five times the length of the spore. A central nucleus is generally visible in the spore.

UROMYCES CARICIS *n. sp.*

Sori small, rotund or oval, generally scattered and distinct; spores varying from globose to elliptical or oblong pyriform, brown, $\frac{1}{1000}'$—$\frac{1}{1000}'$ long; pedicel usually very long, slender.

Under surfaces of leaves of *Carex stricta*. Center. November.

UROMYCES APPENDICULATA *Lev.*

Pea leaves. Buffalo. *Clinton.*

UROMYCES SOLIDA, *B. & C.*

Leaves of Desmodium. Buffalo. *Clinton.*

PILEOLARIA BREVIPES *B. & C.*

Leaves of poison ivy, *Rhus Toxicodendron*. Common. July, September.

I have received specimens of this species from *Howe*, *Gerard*, and *Clinton.*

AREGMA OBTUSATUM *Fr.*

Leaves of *Potentilla Canadensis*. Poughkeepsie. *Gerard.* Saratoga. September and October.

PUCCINIA NOLI-TANGERIS *Cd.*

Leaves of *Impatiens pallida*. Cherry Valley. Otsego county. October.

PUCCINIA GALIORUM *Lk.*

Leaves of *Galium*. Buffalo. *Clinton.*

PUCCINIA POLYGONORUM *Lk.*

Leaves of *Polygonum amphibium*. Buffalo. *Clinton.*

PUCCINIA EMACULATA *Schw.*

Leaves of *Panicum capillare*. Greenbush. October.

PUCCINIA STRIOLA *Lk.*

Leaves of *Scirpus Eriophorum*. West Albany. October.

PUCCINIA CONVOLVULI *B. & C.*

Leaves of *Calystegia sepium*. Poughkeepsie. *Gerard*. Buffalo. *Clinton*. North Greenbush and Sandlake. September and October.

PUCCINIA PYROLÆ *Cooke.*

Under surface of leaves of *Polygala paucifolia*. Buffalo. *Clinton*. Sandlake. May.

The sori sometimes occupy the whole under surface of the leaf. Their black color contrasts beautifully with the light color of the spot.

PUCCINIA TRIPUSTULATA *n. sp.*

Spots very small, angular, distinct, yellowish; sori hypogenous, few, distinct; spores broadly ovate or sub-triangular, tripustulate, scarcely constricted, brown, $\frac{1}{100}'$ long, about $\frac{1}{1000}'$ in diameter; pedicel short or obsolete.

Under surface of leaves of the blackberry, *Rubus villosus*. Greig. September. (Plate 3, figs. 14–16.)

A remarkably distinct species. There are usually from one to five sori on each spot. There are three prominent points or angles to each spore, one at the apex, two at the base of the spore. To one of the latter points the pedicel is attached. The other is sometimes considerably removed from its neighbor, so that it appears to be almost lateral. A little pellucid pustule usually crowns these points, and sometimes two may be seen on the apical prominence.

PUCCINIA MINUTULA *n. sp.*

Spots suborbicular, scattered or confluent, yellow, with a purple or brown center; sori situated on the center of the spot, very small, crowded, black, covered by the epidermis; spores oblong, acute or acuminate, rarely obtuse, slightly constricted, $\frac{1}{800}'$–$\frac{1}{600}'$ long; pedicel generally shorter than the spore.

Under surface of leaves of *Solidago altissima*. Catskill mountains. July.

The sori under a lens look like some small Sphæria. Allied to *P. virgaureæ*.

PUCCINIA GERARDII *n. sp.*

Spots orbicular, distinct or sub-confluent, yellow, depressed above, bullate below; sori crowded, matted together, or confluent, tawny or amber-brown; spores oblong-clavate, distinctly constricted, obtuse, $\frac{1}{100}'$ long, pedicel nearly as long as the spore.

Under surface of leaves of *Aster simplex*. Poughkeepsie. *Gerard*. Greenbush. July.

The different color and matted appearance of the sori separate this species from *P. Asteris* Schw.. Sometimes the sori are quite plentiful on the superior surface of the leaf.

ÆCIDIUM BERBERIDIS *Pers.*

Leaves of barbery, *Berberis vulgaris*. Buffalo. *Clinton*. Catskill. July.

ÆCIDIUM ERIGERONATUM *Schw.*

Leaves of *Erigeron strigosum*. Center.

ÆCIDIUM TENUE *Schw.*

Leaves of *Eupatorium ageratoides*. Catskill mountains. July. Peridia sometimes beautifully circinating.

ÆCIDIUM PENSTEMONIS *Schw.*

Leaves of *Penstemon pubescens*. Buffalo. *Clinton*. June.

ÆCIDIUM THALICTRI *Grev.*

Leaves of some Ranunculaceous plant. Buffalo. *Clinton*. This species is as beautiful as it is rare. June.

ÆCIDIUM RANUNCULACEARUM *DC.*

Leaves of some Anemone or Ranunculus. Buffalo. *Clinton*. July. This is clearly distinct from *Æ. Ranunculi* Schw.

ÆCIDIUM EUPHORBIÆ-HYPERICIFOLIÆ *Schw.*

Leaves of *Euphorbia hypericifolia*. Buffalo. *Clinton*. July.

ÆCIDIUM URTICÆ *DC.*

Leaves of *Urtica dioica*. Poughkeepsie. *Gerard*.

ÆCIDIUM OSMORRHIZÆ *n. sp.*

Spots yellowish, frequently on the midveins; peridia hypogenous, clustered or seriated along the veins, slightly elevated, with the margin subentire, incurved; spores subglobose, yellow, becoming pale, $\frac{1}{1000}'$ in diameter; spermogonia central, on the same side.

Leaves of *Osmorrhiza brevistylis*. North Greenbush. June.

The peridia are visible on the opposite side in the form of little tubercles as in *Æ. tenue*.

ÆCIDIUM MARIÆ-WILSONI *n. sp.*

Spots orbicular, yellow; subiculum not thickened nor excavated; peridia small, slightly elevated, subcircinating, numerous, the margin distinctly scalloped and reflexed; spores subglobose, orange becoming pale, $\frac{1}{1000}'$–$\frac{1}{1000}'$ in diameter.

Under surface of leaves of *Viola cucullata*. West Albany. June. Dedicated to Miss Mary L. Wilson.

This species is quite distinct from *Æ. Violæ* in the character of the subiculum, smaller spores, peridia, etc. The latter species is common on *V. pubescens*.

ÆCIDIUM MENTHÆ *DC.*

Leaves of some Labiate plant. Buffalo. *Clinton*.

Æcidium Iridis *Gerard in lit., n. sp.*

Spots oval or suborbicular, yellow; peridia amphigenous, short, seriately placed; spores bright orange, $\frac{1}{1800}'$–$\frac{1}{1000}'$ in diameter; spermogonia abundant, central, amphigenous.

Leaves of *Iris versicolor*. Poughkeepsie. *Gerard*. Buffalo. *Clinton*.

The peridia are equally abundant on both sides of the leaf, and are mostly arranged in lines between the veinlets of the leaf, characters by which this species may be easily known.

Æcidium Allenii *Clinton in lit., n. sp.*

Spots large, indefinite, yellowish; peridia hypogenous, elongated, cylindrical, white, nestling among the tomentum of the leaf; spores bright orange, subglobose, $\frac{1}{1000}'$ in diameter.

Leaves of *Shepherdia Canadensis*. Buffalo. *Clinton*. June.

A fine species, dedicated to Dr. T. F. Allen. The spots are visible on the upper surface of the leaf, but are concealed by the tomentum on the lower surface.

Rœstelia cornuta *Tul.*

Leaves of *Cratægus*, *Amelanchier Canadensis* and *Pyrus Americana*. Poughkeepsie. *Gerard*. Greenbush.

Stilbum Rhois *B. & C.*

Branches of *Rhus glabra*. Garrisons and Greenbush. June, October.

Stilbum pellucidum *Schrad.*

Rotten wood of deciduous trees. Indian Lake. October.

Stilbum giganteum *n. sp.*

Stem firm, stout, black, equal or slightly tapering upward, single or cæspitose, surmounted by a soft, viscid, whitish, subglobose head; spores minute, elliptical, about $\frac{1}{12000}'$ long.

Old logs in woods. Buffalo. *Clinton*. Catskill mountains and Greig. September and October. (Plate 3, figs. 7–9.) The stems are 3″–5″ high.

Fusarium erubescens *B. & C.*

Dead branches. Center. October.

Tubercularia nigricans *DC.*

Dead branches of apple tree, elder, etc. Center. October.

Oidium fructigenum *Kze.*

On old plums. Sandlake. October.

SEPEDONIUM CHRYSOSPERUM *Fr.*

On some species of Boletus. Indian Lake. October.

MONOTOSPORA TRISEPTATA *n. sp.*

Stem erect, straight, septate, gradually tapering upward, surmounted by a single broadly elliptical triseptate black spore; the two central spore cells colored, the two outer ones smaller and colorless or diaphanous.

Rotten wood. Greenbush. June. (Plate 1, figs. 14–17.)

To the naked eye the wood occupied by this plant appears to be coated with minute black setæ.

HELVELLA CRISPA *Fr.*

Ground among fallen leaves in woods. Greig. September. Buffalo. *Clinton.*

HELVELLA SULCATA *Afz.*

Among moss at the base of a tree. Greig. September. Only a single specimen was found.

HELVELLA ELASTICA *Bull.*

Rotten wood in woods. Greig. September.

HELVELLA GRACILIS *n. sp.*

Pileus thin, somewhat irregular, slightly depressed in the center, entirely free from the stem, pale yellow above, white and rugose-reticulated beneath; stem long, firm, solid, nearly straight, wavy-uneven, slightly tapering at the top, whitish or dull cream color, with white mycelium at the base; spores elliptical.

Ground in open woods. Catskill mountains. July.

Allied to *H. Infula*, but a more graceful species, with simple spores. In *H. Infula* the spores have each two nuclei.

LEOTIA CIRCINANS *Pers.*

Ground in woods. North Elba. August.

GEOGLOSSUM LUTEUM *n. sp.*

Club distinct from the stem, smooth, compressed, generally with a groove on one side, luteous, often becoming brown at the apex; stem equal or slightly enlarged above, stuffed, luteous, minutely scaly; spores oblong, slightly curved, in a double row, $\frac{1}{1000}'$–$\frac{1}{800}'$ long.

Among moss, on and about rotten stumps in swamps or damp woods. Sandlake. August. (Plate 3, figs. 20–24.)

PEZIZA FUSCA *Pers.*

Rotten wood and dead branches in damp places. Helderberg mountains and Greenbush. June.

PEZIZA RUBRICOSA *Fr.*

Ground. Highlands. June.

PEZIZA VINOSA *A. & S.*

Rotten wood. Greenbush. June.

PEZIZA MOLLISIOIDES *Schw.*

Base of *Vaccinium corymbosum*. Greenbush. October.

PEZIZA ERINACEUS *Schw.*

Rotten maple trunk. Indian Lake. October.

PEZIZA COMATA *Schw.*

Fallen leaves in a swamp. Sandlake. August.

PEZIZA HEMISPHÆRICA *Wigg.*

Damp ground and rotten wood. Catskill mountains. July.

PEZIZA ÆRUGINOSA *Fr.*

Rotten wood of deciduous trees. Buffalo. *Clinton*. Sandlake. August.

PEZIZA ECHINOSPERMA *n. sp.*

Cups slightly concave, sometimes irregular, orange, becoming paler, whitish externally, smooth, 1″–2″ in diameter, spores globose, echinulate; paraphyses slender, orange.

Damp ground in pastures. West Albany. June. (Plate 3, figs. 10–13.)

PEZIZA RUBRA *n. sp.*

Cup subglobose, at length hemispherical; mouth narrow, often irregular; spores broadly elliptical, without any nucleus; plant smooth, red throughout, 2″–3″ in diameter.

Burnt ground. Top of the Highlands. June. (Plate 2, figs. 19–21.)

PEZIZA CARIOSA *n. sp.*

Closely gregarious; cup sessile, thin, flattened, slightly concave, smooth, black, dark brown with a reddish tinge when moist; margin distinct, flexuous or angular in large individuals; spores, simple, oblong.

Plant scarcely half a line broad. Rotten wood. Catskill mountains. July.

PEZIZA TILIÆ *n. sp.*

Gregarious, minute, cup sessile, concave, externally densely white villous, the disk pale yellow or cream colored, often concealed by the inflexed hairs.

Dead branches of *Tilia Americana*. Knowersville. July. Very different from *P. tiliacea* Fr. The largest cups are scarcely half a line broad.

PEZIZA PERSOONII *Moug.*

Stems of *Equisetum hyemale*. Center. November and May.

Our plant is generally sessile and often crowded or tufted in its mode of growth. When moist it is much expanded and flattened on the disk. Further observation may show it to be a distinct species.

NODULARIA *nov. gen.*

Receptacle fleshy, margined; disk dusted with the spores; asci large, fixed; paraphyses present, nodose or sub-moniliform.

This genus is intermediate between *Peziza* and *Patellaria*. From the former it is separated by the dusted hymenium and nodulose paraphyses, from the latter by the presence of paraphyses. The name is derived from the Latin *nodulus*, and is given in allusion to the little knots of the paraphyses.

NODULARIA BALSAMICOLA *n. sp.*

Cups flattened, sessile, scattered or somewhat confluent, often irregular, with a distinct, more or less flexuous, incurved margin, externally pinkish white, slightly silky-villous; disk luteous, inclining to reddish or orange, whitish-dusted under a lens; asci large, clavate, obtuse, somewhat irregular or flexuous; paraphyses subflexuous, with two or three moniliform nodes at the top; spores globose, echinulate.

Dead branches of the balsam fir, *Abies balsamea*. Indian Lake. October. (Plate 4, figs. 23–26.)

The cups are 1″–2″ in diameter and are attached by a little point which penetrates the bark.

DERMATEA FURFURACEA *Fr.*

Branches of alders. Center. October and November.

PATELLARIA ATRATA *Fr.*

Rotten wood. Buffalo. *Clinton.*

TYMPANIS ALNEA *Pers.*

Dead branches of alders. Buffalo. *Clinton.* Sandlake. June.

SPHINCTRINA CERASI *B. & C.*

Gum of cherry trees. Buffalo. *Clinton.* Sandlake. June.

CENANGIUM CERASI *Fr.*

Dead trunks and branches of cherry trees, especially *Prunus Pennsylvanica.* Sandlake and Center. June, November.

CENANGIUM TRIANGULARE *Schw.*

Dead oak branches. Greenbush.

CENANGIUM PRUNASTRI *Fr.*

Dead branches of plum and cherry trees. Buffalo. *Clinton.* Sandlake. June.

HYSTERIUM PULICARE *Fr.*

Denuded wood. Buffalo. *Miss Wilson.* Dead grape vines. Greenbush. July.

HYSTERIUM SMILACIS *Schw.*

Dead stems of Smilax. Garrisons. June.

HYSTERIUM AZALEÆ *Schw.*

Dead stems and branches of *Azalea nudiflora.* Sandlake and Center. June.

HYSTERIUM VIRGULTORUM var. ACERIS *Desm.*

Dead branches of *Acer spicatum.* Helderberg mountains. May.

XYLARIA CORNIFORMIS *Fr.*

Mossy maple log in woods. Greig. September.

XYLARIA DIGITATA *Fr.*

Conservatories. Buffalo. *Clinton.*

RHIZOMORPHA SUBCORTICALIS *Pers.*

Under bark of dead trees, etc. Buffalo. *Clinton.* Greig and Helderberg mountains.

HYPOCREA FLOCCOSA *Fr.*

Under surface of the pileus of *Lactarius torminosus.* Greig. September.

HYPOXYLON CONCENTRICUM *Bolt.*

Rotten wood and dead branches. Common.

HYPOXYLON HOWEIANUM *n. sp.*

Globose sessile, covered with a bright red crust, which is thickly punctate with minute black papillate ostiola, at length dull yellow or black, 3″–6″ in diameter; perithecia peripheric, crowded, ovate, black, shining; stroma dense, blackish-bronze, shining, not at all or only very obscurely zonate, radiate-fibrous.

Fallen branches of some deciduous tree. Center. November.

Allied to *H. fragiforme* in its red crust and ovate perithecia, but it differs in its larger size, punctate, not tuberculose, surface, smaller spores, etc.

HYPOXYLON PERFORATUM *Schw.*

Dead branches of birch trees. Catskill mountains. July.

HYPOXYLON ARGILLACEUM *Fr.*

Trunks of beech trees. Sandlake. June. Buffalo. *Clinton.*

HYPOXYLON BEAUMONTII *B. & C.*

Denuded wood of acerose trees. Helderberg mountains. May.

HYPOXYLON MORSEII *B. & C.*

Dead branches of alders. Sandlake and Center. Spring and autumn.

HYPOXYLON ANTHRACODES *Fr.*

On a prostrate trunk of *Tilia Americana.* Trenton Falls. September.

NECTRIA PEZIZA *Fr.*

Old stumps and rotten wood. Greig and Indian Lake. September and October.

NECTRIA INAURATA *B. & Br.*

Stem of *Celastrus scandens?* Buffalo. *Clinton.*

VALSA PULCHELLA *Fr.*

Dead trunks of cherry trees. Sandlake. June.

A pretty species, but nearly concealed by the epidermis of the bark.

VALSA SALICINA *Fr.*

Dead branches of willows. Buffalo. *Clinton.* West Albany. May.

VALSA LEUCOSTOMA *Fr.*

Dead branches of apple trees. Buffalo. *Clinton.* Sandlake. October.

VALSA PINI *Fr.*

Dead branches of pine trees. Sandlake. June.

SPHÆRIA ACULEANS *Schw.*

Dead branches of sumach. Sandlake. June.

SPHÆRIA TILIÆ *Fr.*

Dead branches of *Tilia Americana.* Helderberg mountains. May.

SPHÆRIA OÖTHECA *B. & C.*

Denuded wood. Buffalo. *Clinton.*

SPHÆRIA GYROSA *Schw.*

Buffalo. *Clinton.*

SPHÆRIA COPTIS *Schw.*

Leaves of *Coptis trifolia.* Sandlake. June.

SPHÆRIA SARRACENIÆ *Schw.*

Leaves of *Sarracenia purpurea.* Sandlake. August.

SPHÆRIA SOLIDAGINIS *Schw.*

Leaves of various species of Solidago. Center. October.

SPHÆRIA LONGISSIMA *Pers.*

Dead stems of pigweed, *Chenopodium album.* Buffalo. *Clinton.* Albany. June.

SPHÆRIA TAXICOLA *n. sp.*

Perithecia minute, close, black, shining, slightly elevated, at first covered by the epidermis, then erumpent; spores oblong, in a single series, triseptate.

Occupying the whole upper surface of dead leaves of *Taxus Canadensis.* Sandlake. May.

DOTHIDEA RIBESIA *Pers.*

Dead stems of currant. Buffalo. *Clinton.* Bethlehem and Sandlake. May.

DOTHIDEA SAMBUCI *Fr.*

Dead stems of elder, *Sambucus Canadensis.* Buffalo. *Clinton.* Center. October.

DOTHIDEA CRYSTALLOPHORA *B. & C.*

Dead stems of the Osage orange. Buffalo. *Clinton.* Albany and Riverhead. May and July.

DOTHIDEA FLABELLA *B. & C.*

Upper surface of fronds of *Pteris aquilina.* Center. October.

DOTHIDEA PTERIDIS *Pers.*

Under surface of fronds of *Pteris aquilina.* Center and Catskill mountains. June, October.

DOTHIDEA ANEMONES *Fr.*

Leaves of *Anemone cylindrica.* Center. October.

PODOSPHÆRIA CERASI *Lev.*

Leaves of cherry trees. Sandlake. August.

ERINEUM ROSEUM *Schult.*

Leaves of birches. Buffalo. *Clinton.* Helderberg mountains and Nassau. June.

ERINEUM QUERCINUM *Kze.*

Oak leaves. Buffalo. *Clinton.* New Baltimore. *Howe.*

NEW STATIONS OF RARE PLANTS, REMARKABLE VARIETIES AND OBSERVATIONS.

HEPATICA ACUTILOBA *DC.*

I find the young leaves of this species much more fully developed at flowering time, than those of *H. triloba.* They are also subject to the attacks of a fungus, *Polycystis Ranunculacearum*, but I have never found those of *H. triloba* thus affected, even when growing in the same locality.

DIANTHUS ARMERIA *L.*

Roadsides. Nassau.

HIBISCUS TRIONUM *L.**

Newark, Wayne county. *E. L. Hankenson.*

CLAYTONIA VIRGINICA *L.*

Specimens from Newark, sent by Mr. Hankenson, have alternate leaves.

NABALUS RACEMOSUS *Hook.*

Scarsdale, Westchester county. Extremely bitter. *J. S. Merriam.*

LOBELIA CARDINALIS *L.*

Mr. Merriam finds the white-flowered form on Long Island. No specimens sent.

* This plant was erroneously mentioned on page 56.

PRIMULA MISTASSINICA *Michx.*

Portage. *Clinton.*

FRAGARIA VESCA *L.*

The white-fruited form of this species is abundant in Skaneateles. *S. N. Cowles.* It also occurs in Nassau, Rensselaer county, and in Bethlehem, Albany county. By cultivation, the appearance of the plant is considerably changed. The flowering stems become elongated and dichotomously branched above, the primary division is subtended by a well developed leaf and the fruit is produced throughout the season. It would make a fine addition to the ordinary varieties cultivated by gardeners.

JUNCUS ALPINUS V. INSIGNIS *Fr.*

Sodus Point, Lake Ontario. *Hankenson.*

DANTHONIA COMPRESSA *Aust.*

Mr. Cowles sends specimens exactly intermediate between this species and *D. spicata*, whence it is probable that the former is a variety of the latter dependent on locality.

POLYPODIUM VULGARE V. CAMBRICUM *L.*

"Indian Brook," near Cold Spring. *Miss Sarah P. Monk.* A sterile but most interesting variety.

ASPIDIUM ACULEATUM V. BRAUNII *Koch.*

Stony Clove, Catskill mountains. Discovered there by *J. H. Redfield.* This locality is evidently very favorable to the growth of ferns. In July last, the following nineteen species were observed while passing along the road, about the distance of half a mile, and in no case going more than four rods from it.

Polypodium vulgare *L.*
Adiantum pedatum *L.*
Pteris aquilina *L.*
Asplenium thelypteroides *Mx.*
A. Filix-fœmina *Bernh.*
Phegopteris polypodioides *Fee.*
P. Dryopteris *Fee.*
Cystopteris bulbifera *Bernh.*
C. fragilis *Bernh.*
Aspidium Thelypteris *Swartz.*
Aspidium spinulosum *Swartz.*
A. marginale *Swartz.*
A. acrostichoides *Swartz.*
A. aculeatum *Swartz.*
Struthiopteris Germanica *Willd.*
Onoclea sensibilis *L.*
Woodsia Ilvensis *R. Br.*
Dicksonia punctilobula *Kze.*
Botrychium Virginicum *Swartz.*

The whole number of species now known to belong to the State is forty-four, excluding the doubtful inhabitant *Lygodium palmatum.* It will thus be seen that nearly half our species occur in the "Stony Clove."

BOTRYCHIUM LANCEOLATUM *Angst.*

This rare fern occurs on an island in Lake Mchegan. *Leggett.*

SPHAGNUM WULFIANUM *Girgen.*

Fertile specimens were found in August.

DICRANUM RUFESCENS *Turn.*

This species occurs as far north as Johnsburgh, Warren county.

HOMALIA GRACILIS *James.*

Mount Seward. *V. Colvin.*

GRIMMIA OLNEYI *Sulliv.*

Top of the Highlands.

CETRARIA ISLANDICA V. DELISIÆI *Schær.*

Top of Mount Marcy. It approaches *C. aculeata* in appearance.

PHYSCIA CILIARIS V. ANGUSTATA *Tuck.*

Goat Island. *Miss Wilson.*

BIATORA RUBELLA V. SPADICEA *Tuck.*

Buffalo. *Miss Wilson.*

BIATORA RUBELLA V. SCHWEINITZII *Tuck.*

Balsam firs. Buffalo. *Miss Wilson.* Indian Lake.

AGARICUS MUSCARIUS *Fr.*

A white variety, with the pileus thickly studded with sharp warts, occurs in Albany Rural Cemetery. July.

AGARICUS GRANULOSUS *Batsch.*

A large firm variety, with a well developed, persistent annulus and attached lamellæ, grows on old logs in woods. Greig. September.

AGARICUS MELLEUS *Vahl.*

Very abundant in the woods of Greig, growing in large tufts and eaten by some animal, probably deer.

AGARICUS CAMPANELLA *Batsch.*

Two varieties are found in the woods about Moose River Settlement. One has a yellow pileus, the other is papillate, scarcely umbilicate, and has the stem slightly sprinkled with yellowish dust.

COPRINUS ATRAMENTARIUS *Bull.*

A variety with both pileus and stem somewhat scaly, and the former quite viscid was found in an alley in Albany. It occurs also in cellars.

LENTINUS LECOMTEI *Fr.*

I have never seen this plant with the edge of the lamellæ serrated or eroded, whence it would seem to belong rather to the genus *Panus*. The trama also is clearly present in it.

BOLETUS EDULIS *Bull.*

A singular form was found in Greenbush with the pileus deeply lacunose, the tubes not rounded at the stem, but forcibly torn away from it by the expansion of the pileus and the stem of a dull lilac color with distinct reticulations. Is it specifically distinct?

RESTELIA LACERATA *Sow.*

Fine specimens were found on the leaves, fruit and young twigs of *Amelanchier Canadensis*. June.

AREGMA SPECIOSUM *Fr.*

Dead stems of wild rose. Greenbush.

AREGMA MUCRONATUM *Fr.*

Leaves of *Rubus odoratus*. Trenton Falls. September.

CYSTOPUS CANDIDUS *Lev.*

This species is found on the leaves of *Capsella Bursa-pastoris*, *Sisymbrium officinalis*, *Lepidium Virginicum*, *Dentaria diphylla*, *Portulacca oleracea*, and *Amarantus retroflexus*.

PODOSPORIUM RIGIDUM *Schw.*

Dead stems of *Ampelopsis quinquefolia*. Schoharie. June.

PEZIZA AURANTIA *Fr.*

Abounds on black muck soil in woods at Moose River. September.

HYPOCREA RICHARDSONII *B. & M.*

Common on dead branches of poplar trees, but always sterile with us.

HYPOXYLON MULTIFORME *Fr.*

This very rarely occurs on bark.

(5)

Genus—CLAVARIA *L.*

Plant fleshy, erect, homogeneous, simple or branched; hymenium dry, occupying nearly or quite the whole surface.

The name of the genus is derived from the Latin *clava*, a club. Some of the species are club-shaped, others are branched above in such a manner as to resemble a miniature tree or shrub. The following is a synopsis of the species at present known to occur in the State.

a. Stems branched.

1.	Spores white	2
2.	Plant yellow (luteous, ochraceous, etc.)	3
3.	Stem stout, much and irregularly branched	4
4.	Apices of the branches red	BOTRYTIS
4.	Apices of the branches yellow	FLAVA
3.	Stem slender, dichotomously branched	TETRAGONA
2.	Plant white or cinereous (no shade of yellow)	5
5.	Stem smooth, color cinereous	6
6.	Apices of the branches obtuse (concolorous)	CINEREA
6.	Apices crested, acute (at length brown)	CRISTATA
5.	Stem hairy, apices of the branches acute	TRICHOPUS
5.	Stem smooth, color white	KUNZEI
1.	Spores ochraceous (plant some shade of yellow or ochre)	7
7.	Plant terrestrial (growing on the ground or among leaves)	8
8.	Apices of the branches obtuse, concolorous	AUREA
8.	Apices acute or acicular, white	SPINULOSA
7.	Plant epiphytal (growing on rotten wood, logs, etc.)	9
9.	Axils concolorous (i.e., ochraceous like the rest of the plant)	10
10.	On wood of acerose trees, branches straight	APICULATA
10.	On wood of frondose trees, branches flexuous	CRISPULA
9.	Axils becoming cinnamon colored, branches straight	STRICTA

b. Stems simple (rarely once divided, or with one or two branches.)

11.	Growing in tufts or clusters	12
12.	Plant yellow	13
13.	Club hollow, mostly regular	FUSIFORMIS
13.	Club stuffed, irregular or compressed	INÆQUALIS
12.	Plant white or whitish	14
14.	Club and stem distinct, color dingy	ARGILLACEA
14.	Club and stem confluent, color pure	FRAGILIS

11. Growing singly or scattered..... 15
15. Plant terrestrial..... 16
16. Club fleshy, obtuse 17
17. Naked at the base, 6″–12″ thick ..... PISTILLARIS
17. White mycelium at the base, 2″–4″ thick, LIGULA
16. Club filiform, acute..... JUNCEA
15. Plant epiphytal ..... MUCIDA

All the white-spored branched species given in the preceding table are terrestrial. *C. trichopus* I have found only among sphagnum. *C. cristata* rarely occurs with branches obtuse, and not crested. *C. spinulosa* rarely may be found without white tips to the branches, but in every instance of such exceptional forms coming under my observation, they have been associated with a great abundance of the normal form. *C. inæqualis* grows especially in swamps and sometimes singly. It is quite fragile. *C. mucida* is remarkable for the green confervoid stratum that covers the moist rotten wood on which it grows.

Genus—ÆCIDIUM *Pers.*

Peridia tubular or cup-shaped, at length open at the top with the margin lobed or lacerated; spores subglobose, colored.

The peridia normally occupy the lower surface of the leaves of plants, sometimes scattered over the whole of that surface, but more often collected in little orbicular clusters. They open at the top, revealing the globose or ovate, yellow or orange-colored spores within, and are not inaptly termed "*Cluster cups.*" The margin of the cup or peridium is generally fringed or scalloped with little rounded, reflexed lobes. The subiculum or spot on which the cups are seated is usually more or less discolored, yellow and red being the prevailing hues. The spermogonia, minute pustules which occur with the cups and are thought to be the male plant, are not always readily detected. They usually occupy the center of the spot on one or both sides of the leaf. More than thirty species of Æcidium have been found in the State, of which the following is a synopsis.

a. Peridia scattered over the whole under-surface of the leaf, or over indefinite portions of it.

1. Peridia short, naked 2
2. Mouth with a few (3–5) distinct lobes ..... QUADRIFIDUM
2. Mouth entire, indistinctly or many lobed..... 3
3. Leaf green above, scarcely discolored..... 4
4. Spermogonia numerous, distinct 5
5. Mouth wide, lobed; leaf rugulose above ..... RANUNCULI
5. Mouth at first narrow, with an incurved, sub-entire margin; leaf not rugulose..... AROIDATUM
4. Spermogonia few, indistinct or none.... 6

6. Mouth of the numerous equal peridia distinctly lobed ..... EPILOBII
6. Mouth of the few unequal peridia not distinctly lobed ..... EUPHORBIÆ-HYPERICIFOLIÆ
3. Leaf plainly discolored 7
7. Leaf yellowish, not thickened; peridia large... CLAYTONIATUM
7. Leaf brownish, generally thickened; peridia not large ..... HOUSTONIATUM
1. Peridia elongated, nestling in the tomentum of the leaf..... 8
8. Peridia few, crowded or scattered..... GNAPHALIATUM
8. Peridia numerous, not crowded..... ALLENII

b. Peridia in definite spots or clusters.

9. Elongated 10
10. Seated on a thickened subiculum..... 11
11. Spots brown or chestnut-colored ..... FRAXINI
11. Spots red..... BERBERIDIS
10. Subiculum not thickened 12
12. Peridia extending to the margin of the spot.. 13
13. Many, in dense roundish clusters..... THALICTRI
13. Few, loosely placed on orbicular spots... MACROSPORUM
12. Peridia central on a yellow spot with sterile margin ..... HYDNOIDEUM
9. Short or sub-immersed 14
14. On a thickened subiculum..... 15
15. Spots distinct, yellow 16
16. Small on the leaves, larger and most often on the petioles, which are thickened and distorted..... SAMBUCI
16. Most often on the leaves, and as large as on the slightly thickened petioles..... VIOLÆ
15. Spots more or less red or purple, not clear yellow..... 17
17. Pale red, stems or petioles sometimes thickened ..... CLEMATITIS
17. Chestnut-colored or reddish-brown..... 18
18. Peridia extending to the margin..... MYRICATUM
18. Peridia central..... LIMONIS
17. Yellowish stained with red or purple .... PUSTULATUM
15. Spots obliterated 19
19. Petioles often attacked and much distorted, URTICÆ
19. Petioles not distorted 20
20. Peridia wide-mouthed, crowded.....RANUNCULACEARUM
20. Peridia narrow-mouthed, spores elliptical ..... MENTHÆ.
14. Subiculum not thickened 21
21. Spots yellow, with no tinge of red or purple..... 22

22. Peridia mostly in series; on both sides of the leaf ..... IRIDIS
22. Peridia not in series; on the under side of the leaf 23
23. Spots large and generally confluent ... 24
24. Peridia crowded ..... PODOPHYLLI
24. Peridia not crowded, irregular placed, ERIGERONATUM
23. Spots small or medium, generally distinct 25
25. Peridia central 26
26. Crowded, leaf not pustulate on the opposite side ..... HELIANTHI
26. Loosely placed, leaf distinctly pustulate on the opposite side ..... TENUE
25. Peridia extending to the margin 27
27. Peridia distinctly lobed on the margin, MARIÆ-WILSONI
27. Peridia indistinctly lobed, mostly seriated along the mid-rib ..... OSMORRHIZÆ
27. Peridia indistinctly lobed, not seriated, OROBI
21. Spots more or less stained with purple or red 28
28. Spots large, pustulate, the center purple or brown ..... IMPATIENTIS
28. Spots medium or small, scarcely pustulate ... 29
29. Centrally red or purplish 30
30. Mostly on the margin of the leaf or of its lobes, GERANII
30. On any part of the leaf 31
31. Peridia crowded, extending to the margin ..... GROSSULARIÆ
31. Peridia central, few, mostly less than twenty ..... COMPOSITARUM
31. Peridia central, many, mostly more than twenty ..... PENSTEMONIS
29. With a red dash extending from the spot to the margin of the leaf; peridia numerous, crowded ..... ŒNOTHERÆ

Some of the foregoing species are variable and will not in all cases rigidly agree with the characters here given, but a few explanations and a list of the plants on which the species are found, will remove nearly or quite all difficulties in tracing them.

Æcidium Berberidis sometimes has short peridia. I have seen but a single dried specimen of *Æ. Clematitis* which is on a thickened petiole or stem. The color of the spot is taken from the description. I have seen but few poor specimens of *Æ. Orobi*, and am not quite sure that they are rightly referred. *Æ. Impatientis* sometimes has the spots entirely yellow, and the same is true of *Æ. Geranii* and *Æ. Compositarum*. *Æ. Geranii* also rarely has a purplish or yellow dash extending to the margin of the leaf.

Æcidium quadrifidum *DC.*	grows on	..	Anemone nemorosa.
Æ. Ranunculi *Schw.*	"	..	Ranunculus abortivus.
Æ. Aroidatum *Schw.*	"	..	Arisæma triphyllum.
var. *Caladii Schw.*	"	..	Peltandra Virginica.
Æ. Epilobii *DC.*	"	..	Œnothera biennis.
Æ. Euphorb.-hypericifoliæ	"	..	Euphorbia hypericifolia.
Æ. Claytoniatum *Schw*	"	..	Claytonia Caroliniana.
Æ. Houstoniatum *Schw.*	"	..	Houstonia purpurea.
Æ. Gnaphaliatum *Schw.*	"	..	Gnaphalium decurrens, etc.
Æ. Allenii *Clinton,*	"	..	Shepherdia Canadensis.
Æ. Fraxini *Schw.*	"	..	Fraxinus Americana.
Æ. Berberidis *Pers.*	"	..	Berberis vulgaris.
Æ. Thalictri *Grev.*	"	..	Ranunculaceæ.
Æ. macrosporum *Pk.*	"	..	Smilax rotundifolia.
Æ. hydnoideum *B. & C.*	"	..	Dirca palustris.
Æ. Sambuci *Schw.*	"	..	Sambucus Canadensis.
Æ. Violæ *Schum.*	"	..	Viola pubescens.
Æ. Clematitis *Schw.*	"	..	Clematis Virginiana.
Æ. Myricatum *Schw.*	"	..	Myrica cerifera.
Æ. Limonii *Pk.*	"	..	Statice Limonium.
Æ. pustulatum *Curt.*	"	..	Comandra umbellata.
Æ. Urticæ *DC.*	"	..	Urtica dioica.
Æ. Ranunculacearum *DC.*	"	..	Ranunculaceæ.
Æ. Menthæ *DC.*	"	..	Labiatæ.
Æ. Iridis *Gerard.*	"	..	Iris versicolor.
Æ. Podophylli *Schw.*	"	..	Podophyllum peltatum.
Æ. Erigeronatum *Schw.*	"	..	Erigeron strigosum.
Æ. Helianthi *Schw.*	"	..	Helianthus.
Æ. tenue *Schw.*	"	..	Eupatorium ageratoides.
Æ. Mariæ-Wilsoni *Pk.*	"	..	Viola cucullata.
Æ. Osmorrhizæ *Pk.*	"	..	Osmorrhiza brevistylis.
Æ. Orobi *DC.*	"	..	Trifolium repens.
Æ. Impatientis *Schw.*	"	..	Impatiens fulva.
Æ. Geranii *DC.*	"	..	Geranium maculatum.
Æ. Grossulariæ *DC.*	"	..	Ribes.
Æ. Compositarum *Mart.*	"	..	Compositæ.
Æ. Penstemonis *Schw.*	"	..	Penstemon pubescens.
Æ. Œnotheræ *Pk.*	"	..	Œnothera biennis.

In the paper marked (4), when no name is added to the station or stations, the plant has been found therein by the writer. Dates signify the time of collecting the specimens, and therefore indicate to some extent the time of occurrence of the plant.

A continuation of the coöperation of the Botanists of the State in the investigation of our Flora, is earnestly solicited.

Respectfully submitted.

CHAS. H. PECK.

Albany, *January* 11*th*, 1871.

1870

1870

PLATES AND EXPLANATIONS.

PLATE I.

Cortinarius (Inoloma) asper Pk.

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Fig. 1. A specimen of ordinary size.
Fig. 2. Vertical section of a pileus of a young plant.
Fig. 3. Spores magnified.

Agaricus (Collybia) spinulifer Pk.

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Figs. 4, 5. Specimens of ordinary size; one with a young plant attached to its base.
Fig. 6. Vertical section of a pileus.
Fig. 7. Transverse section of a stem.
Fig. 8. Spine-like processes of the lamellæ, magnified.
Fig. 9. Spores magnified.

Agaricus (Omphalia) lilacinus Pk.

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Figs. 10, 11. Specimens of ordinary size.
Fig. 12. Vertical section of a pileus.
Fig. 13. Transverse section of a stem.

Monotospora triseptata Pk.

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Fig. 14. A piece of wood bearing a patch of plants.
Fig. 15. Two fertile plants magnified.
Fig. 16. A sporeless plant magnified.
Fig. 17. A plant with its spore more highly magnified.

Uredo Aspidiotus Pk.

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Fig. 18. Part of a frond of *Phegopteris Dryopteris* bearing *Uredo Aspidiotus.*
Fig. 19. A spot and sorus magnified.
Fig. 20. Spores magnified.

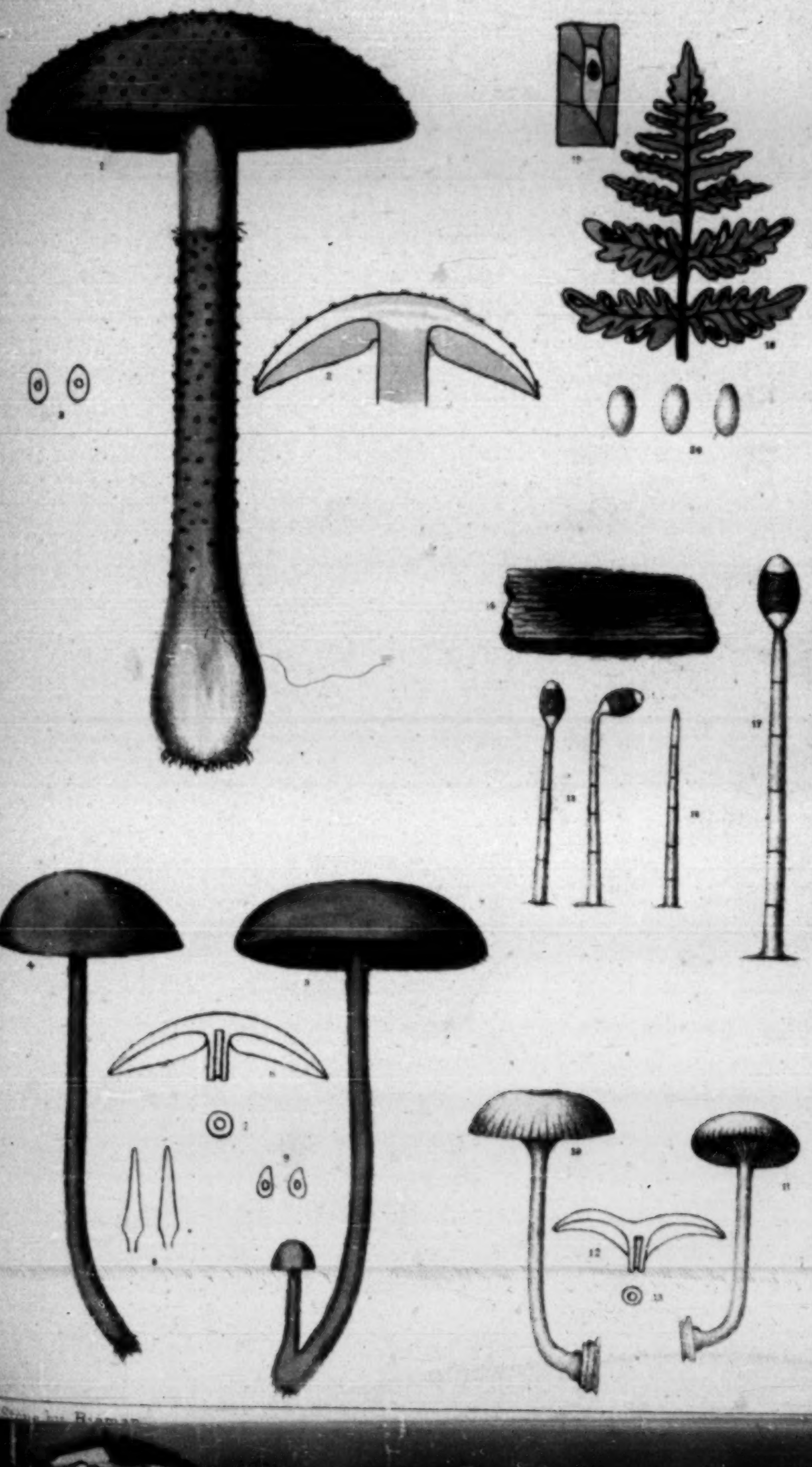

PLATE II.

Bolbitius nobilis Pk.

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Figs. 1, 2. Specimens of ordinary size; one with a young plant attached to its base.
Fig. 3. Vertical section of a pileus.
Fig. 4. Transverse section of a stem.

Boletus bicolor Pk.

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Fig. 5. A specimen of ordinary size.
Fig. 6. Vertical section of a pileus.
Fig. 7. Mouths of tubes magnified.
Fig. 8. Spores magnified.

Agaricus (Psilocybe) Limicola Pk.

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Figs. 9, 10. Specimens of ordinary size; one with a young plant attached to its base.
Fig. 11. Vertical section of a pileus.
Fig. 12. Transverse section of a stem.
Fig. 13. Spores magnified.

Agaricus (Entoloma) cuspidatus Pk.

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Figs. 14, 15. Specimens of ordinary size.
Fig. 16. Vertical section of a pileus.
Fig. 17. Transverse section of a stem.
Fig. 18. Spores magnified.

Peziza rubra Pk.

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Fig. 19. Specimens of ordinary size.
Fig. 20. A paraphysis and an ascus with its spores, magnified.
Fig. 21. Spores more highly magnified.

PLATE III.

Agaricus (Hebeloma) Ascophorus Pk.

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Figs. 1, 2. Specimens of ordinary size.
Fig. 3. Vertical section of a pileus.
Fig. 4. Transverse section of a stem.
Fig. 5. A sack with its spores, magnified.
Fig. 6. Spores magnified.

Stilbum giganteum Pk.

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Fig. 7. A tuft of plants of ordinary size.
Fig. 8. A fertile and sterile plant, magnified
Fig. 9. Spores magnified.

Peziza echinosperma Pk.

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Fig. 10. A lump of earth bearing five plants.
Fig. 11. A plant magnified.
Fig. 12. A paraphysis and an ascus with its spores, magnified.
Fig. 13. A spore more highly magnified.

Puccinia tripustulata Pk.

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Fig. 14. A leaflet of *Rubus villosus* bearing *Puccinia tripustulata.*
Fig. 15. A spot and two sori magnified.
Fig. 16. Spores magnified.

Trichobasis Iridicola Pk.

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Fig. 17. Part of a leaf of *Iris versicolor* bearing *Trichobasis Iridicola.*
Fig. 18. A sorus magnified.
Fig. 19. Spores magnified.

Geoglossum luteum Pk.

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Figs. 20, 21. Specimens of ordinary size showing opposite faces of the club.
Fig. 22. Transverse section of a club.
Fig. 23. Transverse section of a stem.
Fig. 24. A paraphysis and an ascus with its spores, magnified.

On Stone by Swinton.

PLATE IV.

Agaricus (Hebeloma) illicitus Pk.

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Figs. 1, 2. Specimens of ordinary size.
Fig. 3. Vertical section of a pileus.
Fig. 4. Transverse section of a stem.
Fig. 5. Spores magnified.

Agaricus (Entoloma) salmoneus Pk.

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Fig. 6. A specimen of ordinary size.
Fig. 7. Vertical section of a pileus.
Fig. 8. Transverse section of a stem.
Fig. 9. Spores magnified.

Coprinus silvaticus Pk.

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Figs. 10, 11. Specimens of ordinary size.
Fig. 12. Vertical section of a pileus.
Fig. 13. Transverse section of a stem.
Fig. 14. Spores magnified.

Coprinus semilanatus Pk.

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Fig. 15. A specimen of ordinary size.
Fig. 16. Vertical section of a pileus.
Fig. 17. Transverse section of a stem.
Fig. 18. Spores magnified.

Marasmius pulcherripes Pk.

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Figs. 19, 20. Specimens of ordinary size.
Fig. 21. Vertical section of a pileus, magnified.
Fig. 22. Transverse section of a stem, magnified.

Nodularia balsamicola Pk.

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Fig. 23. A piece of bark bearing several plants.
Fig. 24. A plant magnified.
Fig. 25. Paraphyses and asci with partly formed spores, magnified.
Fig. 26. Spores magnified.

Marasmius filopes Pk.

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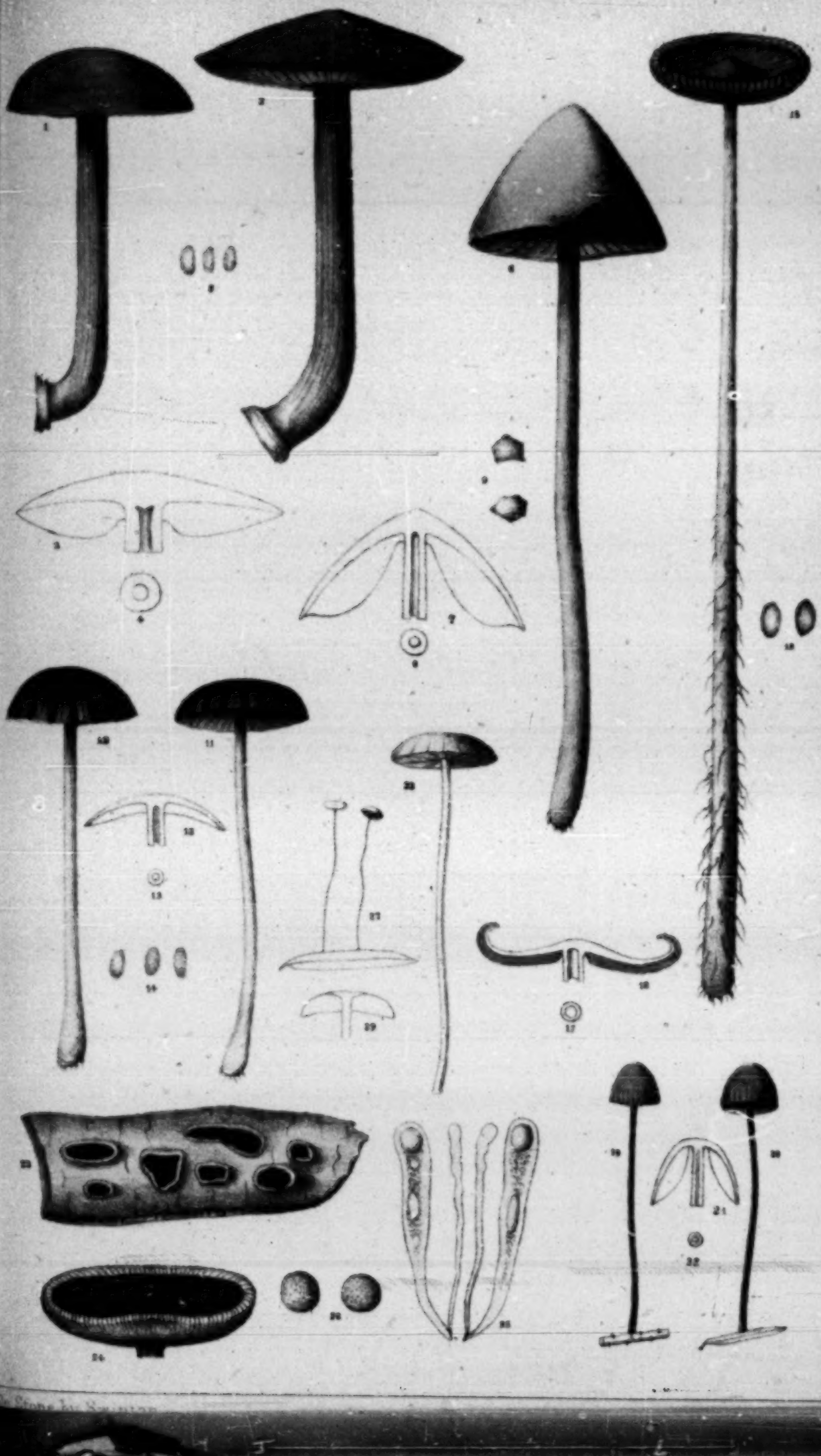
Fig. 27. Specimens of ordinary size.
Fig. 28. A plant magnified.
Fig. 29. Vertical section of a pileus magnified.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1871

REPORT OF THE BOTANIST.

1871

S. B. WOOLWORTH, LL. D.,
Secretary of the Regents:

SIR.—Since the date of my last report, specimens of three hundred and twenty-four species of plants have been poisoned and mounted, three hundred and sixteen of which were not before represented in the Herbarium. For want of room in the Herbarium case, only a part of these have been placed therein. A list of the specimens mounted is marked (1).

Specimens have been collected in the counties of Albany, Allegany, Cattaraugus, Essex, Orange, Putnam, Rensselaer, Schuyler, Seneca and Wayne, representing two hundred and twenty-two species new to the State. Of these, one hundred are regarded as new or undescribed species. A list of specimens collected is marked (2). This does not include new varieties and duplicate specimens of species before reported. Of these, a considerable number of specimens have been collected.

Specimens representing thirty-one species new to the State, and not among my collections of the past season, have been received from correspondents. They were collected in the counties of Dutchess, Erie, Greene, Kings, Suffolk, Rockland and Ulster. If these be added to those of my own collecting, the total number of additions to the flora of the State, the past season, becomes two hundred and fifty-three species. This number is smaller than those of previous years, and having been attained without any diminution of diligence or relaxation of effort, it indicates considerable progress toward the full representation of our flora by specimens in the State Herbarium.

A classified statement of the number of added species is given below:

		New to the State.	New to Science.
Collected	Flowering plants	2	1
	Mosses	4	3
	Lichens	5	.....
	Fungi	211	96
Total		222	100
Contributed	Flowering plants	6	.....
	Hepaticæ	1	.....
	Lichens	4	.....
	Fungi	20	2
Total		31	2
Collected and distributed,		253	102

Specimens have been received of a considerable number of extra-limital species. A list of these, together with the other contributions and of the contributors, is marked (3).

New species and descriptions thereof, previously unreported species, remarkable varieties and observations, are given in a section marked (4).

The large and interesting genus Puccinia is represented in our State by forty species. Of these, several are new and of others only brief and unsatisfactory descriptions have been published, and none of the descriptions that I have seen give the dimensions of the spores. It has been thought desirable, therefore, to give a full synopsis of our species. This is marked (5). It is illustrated by drawings of the magnified spores of all the species.

The work of making colored sketches of the fleshy fungi as fast as collected has been continued and in some cases extended to the microscopic species and the details of their fructification. The number of species figured is sixty-three.

A marked deficiency in the production of Agarics and other fleshy fungi the past season has been reported to me by several correspondents. The season has not been excessively dry except in the western part of the State, and I am at a loss to know to what cause to attribute this result. The prevailing low temperature doubtless had some influence in producing the scarcity, but this alone is scarcely a sufficient cause.

(1)

SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

NOT NEW TO THE HERBARIUM.

Lechea Novæ-Cæsareæ *Aust.*
Rubus strigosus *Mx.*
Aristolochia Serpentaria *L.*
Pinus resinosa *Ait.*
Juncus alp. v. insignis *Fr.*
Bromus ciliatus *L.*
Cystopteris fragilis *Bernh.*
Botrychium lanceolatum *Angst.*

NEW TO THE HERBARIUM.

Corydalis flavula *Raf.*
Nasturtium sylvestre *R. Br.*
Barbarea præcox *R. Br.*
Viola primulæfolia *L.*
Silene inflata *Smith.*
Linum striatum *Walt.*
Galactia mollis *Mx.*
Coronilla varia *DC.*
Cratægus parvifolia *Ait.*
Oxalis corniculata *L.*
Lythrum Hyssopifolia *L.*
Frangula Caroliniana *Gr.*
Fedia radiata *Mx.*
F. umbilicata *Sulliv.*
Crepis virens *L.*
Eupatorium pubescens *Muhl.*
Mentha aquatica *L.*
Carex capillaris *L.*
Aspidium aculeatum *Sz.*
A. Thelypteris *Sz.*
Sticta crocata *L.*
Cetraria Pinastri *Ach.*
Biatora exigua *Chaub.*
B. lucida *Ach.*
Coniocybe furfuracea *L.*
Umbilicaria Pennsylvanica *Hoffm.*
Pyrenula leucoplaca *Tuck.*
Leptogium pulchellum *Nyl.*
Collema pulposum *Bernh.*
Ephebe pubescens *Fr.*
Agaricus volvatus *Pk.*
A. rubescens *Pers.*
A. chrysenteroides *Pk.*
A. equestris *L.*
Agaricus Schumacheri *Fr.*
A. fragrans *Sow.*
A. Calathus *Bwb.*
A. Hoffmani *Pk.*
A. marmoreus *Pk.*
A. spinulifer *Pk.*
A. similis *Pk.*
A. clusilis *Fr.*
A. pyxidatus *Bull.*
A. Leaianus *Berk.*
A. Tintinnabulum *Fr.*
A. hæmatopus *Pers.*
A. leptophyllus *Pk.*
A. fibuloides *Pk.*
A. ulmarius *Sow.*
A. Ascophorus *Pk.*
A. excedens *Pk.*
A. variabilis *Pers.*
A. haustellaris *Fr.*
A. Greigensis *Pk.*
A. zonatus *Pk.*
A. Sienna *Pk.*
A. lilacinus *Pk.*
A. ectypoides *Pk.*
A. Trentonensis *Pk.*
A. porrigens *Pers.*
A. admirabilis *Pk.*
A. delicatulus *Pk.*
A. Clintonianus *Pk.*
A. asprellus *Fr.*
A. conicus *Pk.*
A. Seymouranus *Pk.*
A. sericellus *Fr.*
A. Woodianus *Pk.*
A. scabrosus *Fr.*
A. Grayanus *Pk.*
A. Noveboracensis *Pk.*
A. abortivus *B. & C.*
A. bombycinus *Schæff.*
A. Highlandensis *Pk.*
A. mollis *Schæff.*
A. dorsalis *Pk.*
A. mutatus *Pk.*
A. illicitus *Pk.*
A. heteroclitus *Fr.*
A. Aggericola *Pk.*

Agaricus flammans *Fr.*
A. squarrosus *Müll.*
A. salmoneus *Pk.*
A. cuspidatus *Pk.*
A. Limicola *Pk.*
A. eximius *Pk.*
A. odoratus *Pk.*
Bolbitius nobilis *Pk.*
Coprinus semilanatus *Pk.*
C. atramentarius *Bull.*
C. radiatus *Bolt.*
C. silvaticus *Pk.*
Cortinarius evernius *Fr.*
C. corrugatus *Pk.*
C. bolaris *Pers.*
C. asper *Pk.*
C. olivarius *Pk.*
Cantharellus cinereus *Fr.*
Plicatura Alni *Pk.*
Hygrophorus lætus *Fr.*
H. puniceus *Fr.*
H. psittacinus *Fr.*
H. miniatus *Fr.*
Gomphidius viscidus *Fr.*
Lactarius cinereus *Pk.*
L. angustissimus *Lasch.*
L. serifluus *Fr.*
L. Chelidonium *Pk.*
L. fumosus *Pk.*
L. insulsus *Fr.*
L. trivialis *Fr.*
Russula rubra *Fr.*
R. Mariæ *Pk.*
R. virescens *Fr.*
R. simillima *Pk.*
Paxillus involutus *Fr.*
P. atrotomentosus *Fr.*
Marasmius filopes *Pk.*
M. pulcherripes *Pk.*
M. papillatus *Pk.*
M. candidus *Fr.*
M. decurrens *Pk.*
M. perforans *Fr.*
M. striatipes *Pk.*
Panus salicinus *Pk.*
Craterellus lutescens *Fr.*
Boletus gracilis *Pk.*
B. bicolor *Pk.*
Polyporus poripes *Fr.*
P. glomeratus *Pk.*
Polyporus velutinus *Fr.*
P. elongatus *Berk.*
P. Vaillantii *Fr.*
P. Corticola *Fr.*
P. Viticola *Fr.*
P. fumosus *Fr.*
P. cæsius *Fr.*
P. zonatus *Fr.*
P. vesiculosus *B. & C.*
Trametes sepium *Berk.*
Hydnum zonatum *Fr.*
H. ferrugineum *Fr.*
H. pithyophilum *B. & C.*
Odontia fimbriata *Fr.*
Kneiffia setigera *Fr.*
K. candidissima *B. & C.*
Phlebia radiata *Fr.*
P. zonata *B. & C.*
Guepinia Spathularia *Fr.*
Corticium salicinum *Fr.*
C. Liquidambaris *B. & C.*
C. incarnatum *Fr.*
C. Auberianum *Mont.*
C. Rubicola *B. & C.*
Stereum rugosum *Fr.*
S. albobadium *Schw.*
S. Curtisii *Berk.*
Thelephora sebacea *Fr.*
T. caryophyllæa *Fr.*
T. coralloides *Fr.*
T. palmata *Fr.*
T. tuberosa *Fr.*
Clavaria flava *Fr.*
C. fragilis *Holmsk.*
C. argillacea *Fr.*
C. trichopus *Pers.*
C. cinerea *Bull.*
C. mucida *Pers.*
C. Kunzei *Fr.*
C. spinulosa *Pers.*
C. crispula *Fr.*
C. apiculata *Fr.*
C. tetragona *Schw.*
C. pistillaris *Fr.*
Calocera cornea *Fr.*
C. palmata *Fr.*
C. viscosa *Fr.*
Tremella foliacea *Pers.*
Næmatelia atrata *Pk.*
N. nucleata *Fr.*

Phallus impudicus *Fr.*
Cyathus striatus *Hoffm.*
Geaster minimus *Schw.*
Lycoperdon molle *Pers.*
L. atropurpureum *Vitt.*
L. subincarnatum *Pk.*
Dictydium magnum *Pk.*
Didymium squamulosum *A. & S.*
Arcyria punicea *Pers.*
Stemonitis fusca *Roth.*
Trichia pyriformis *Hoffm.*
T. chrysosperma *DC.*
T. varia *Pers.*
T. Serpula *Pers.*
Phoma Menispermi *Pk.*
P. longissimum *Berk.*
P. ampelinum *B. & C.*
Leptostroma vulgare *Fr.*
Sphæronema Coryli *Pk.*
S. pruinosa *Pk.*
S. acerinum *Pk.*
S. subulatum *Fr.*
Sphæropsis pulchella *B. & C.*
S. Menispermi *Pk.*
S. anomala *Pk.*
Melanconium bicolor *Nees.*
Septoria Lobeliæ *Pk.*
S. phlyctænoides *B. & C.*
S. Hippocastani *B. & Br.*
Septoria Nabali *B. & C.*
S. Erigeronis *Pk.*
Discosia alnea *Lib.*
Discella obscura *B. & C.*
Nemaspora Russellii *B. & C.*
Cytispora parva *B. & C.*
C. coryneoides *B. & C.*
C. hyalosperma *Fr.*
C. melasperma *Fr.*
Coryneum clavæsporum *Pk.*
Vermicularia Dematium *Fr.*
Phragmidium obtusum *Lk.*
Puccinia Convolvuli *B. & C.*
P. striola *Lk.*
P. Gerardii *Pk.*
P. minutula *Pk.*
P. Pyrolæ *Cooke.*
P. tripustulata *Pk.*
P. Galiorum *Lk.*
P. Nolitangeris *Cd.*
Pileolaria brevipes *B. & C.*
Uromyces Polygoni *Fuckel.*
U. Caricis *Pk.*
U. solida *B. & C.*
U. appendiculata *Lev.*
Ustilago Montagnei *Tul.*
U. longissima *Tul.*
Roestelia cornuta *Tul.*
Æcidium tenue *Schw.*
Æ. Osmorrhizæ *Pk.*
Æ. Erigeronatum *Schw.*
Æ. Thalictri *Grev.*
Æ. Allenii *Clinton.*
Æ. Euph.-hypericifoliæ *Schw.*
Æ. Menthæ *DC.*
Æ. Iridis *Gerard.*
Æ. Penstemonis *Schw.*
Æ. Berberidis *Pers.*
Æ. Mariæ-Wilsoni *Pk.*
Æ. Urticæ *DC.*
Lecythea Rosæ *Lev.*
Trichobasis Labiatarum *Lev.*
T. Galii *Lev.*
T. Iridicola *Pk.*
Uredo æcidioides *Pk.*
U. Aspidiotus *Pk.*
Stilbum Rhois *B. & C.*
S. pellucidum *Schrad.*
S. giganteum *Pk.*
Fusarium erubescens *B. & C.*
Tubercularia nigricans *DC.*
Oidium fructigenum *Kze.*
Sepedonium chrysospermum *Lk.*
Geoglossum luteum *Pk.*
G. microsporum *C. & P.*
Helvella crispa *Fr.*
H. sulcata *Afz.*
H. elastica *Bull.*
H. gracilis *Pk.*
Nodularia Balsamicola *Pk.*
Peziza aurantia *Fr.*
P. Erineum *Schw.*
P. hemisphærica *Wigg.*
P. fusca *Pers.*
P. mollisioides *Schw.*
P. æruginosa *Fr.*
P. vinosa *A. & S.*
P. echinospora *Pk.*
P. rubricosa *Fr.*
P. rubra *Pk.*
P. cariosa *Pk.*

Peziza Tiliæ *Pk.*
P. comata *Schw.*
P. Persoonii *Mong.*
P. furfuracea *Fr.*
Nectria Peziza *Fr.*
Hypocrea floccosa *Fr.*
Rhizomorpha subcorticalis *Pers.*
Hysterium Smilacis *Schw.*
H. virgultorum *Desm.*
H. pulicare *Pers.*
H. Azaleæ *Schw.*
Tympanis alnea *Pers.*
Cenangium Cerasi *Fr.*
C. Prunastri *Fr.*
C. triangulare *Schw.*
Sphinctrina Cerasi *B. & C.*
Hypoxylon Morseii *B. & C.*
H. Howeanum *Pk.*
Hypoxylon concentricum *Fr.*
H. anthracodes *Fr.*
H. argillaceum *Fr.*
Xylaria corniformis *Fr.*
Valsa Pini *Fr.*
V. pulchella *Fr.*
V. salicina *Fr.*
V. aculeans *Schw.*
Sphæria Coptis *Schw.*
S. Tiliæ *Pers.*
S. Sarraceniæ *Schw.*
Dothidea Anemones *Fr.*
D. flabella *B. & C.*
D. Pteridis *Fr.*
D. Sambuci *Fr.*
D. Ribesia *Fr.*
Erineum quercinum *Kze.*
E. roseum *Schultz.*

(2)

PLANTS COLLECTED.

FLOWERING PLANTS.

Lythrum alatum *Pursh.*
Arceuthobium pusillum *Pk.*

MOSSES.

Orthotrichum Peckii *S. & L.*
O. sordidum *S. & L.*
Polytrichum strictum *Menz.*
Hypnum Peckii *Aust.*

LICHENS.

Placodium elegans *Lk.*
Biatora decolorans *Hoffm.*
Pannaria nigra *Huds.*
P. crassophylla *Tuck.*
Arthonia spectabilis *Flot.*

FUNGI.

Agaricus russuloides *Pk.*
A. illinitus *Fr.*
A. hordus *Fr.*
A. virescens *Pk.*
A. decorosus *Pk.*
A. multipunctus *Pk.*
A. sinopicus *Fr.*
A. fallax *Pk.*
A. succosus *Pk.*
A. myriadophyllus *Pk.*
A. pelianthinus *Fr.*
A. minutulus *Pk.*
A. subcæruleus *Pk.*
A. roseocandidus *Pk.*
A. debilis *Bull.*
A. roridus *Fr.*
A. pterigenus *Fr.*
A. olivarius *Pk.*
A. gracillimus *Weinm.*
A. sterilomarginatus *Pk.*
A. putrigena *B. & C.*
A. albocrenulatus *Pk.*
A. Acericola *Pk.*
A. discolor *Pk.*
A. pallidomarginatus *Pk.*
A. squamosus *Fr.*
A. saccharinophilus *Pk.*
A. hirtosquamulosus *Pk.*
Agaricus hiascens *Fr.*
Coprinus variegatus *Pk.*
Hygrophorus chlorophanus *Fr.*
Marasmius semihirtipes *Pk.*
M. umbonatus *Pk.*
M. languidus *Fr.*
Lentinus tigrinus *Bull.*
L. vulpinus *Fr.*
L. hæmatopus *Berk.*
Hydnum strigosum *Swartz.*
Boletus separans *Pk.*
B. affinis *Pk.*
B. modestus *Pk.*
B. castaneus *Bull.*
Polyporus resinosus *Fr.*
P. picipes *Fr.*
Merulius lacrymans *Fr.*
Craterellus cæspitosus *Pk.*
Thelephora anthocephala *Fr.*
T. pedicellata *Schw.*
Clavaria rufescens *Schæff.*
C. pusilla *Pk.*
C. clavata *Pk.*
Tremella albida *Huds.*
T. colorata *Pk.*
Solenia ochracea *Hoffm.*
Stemonitis typhoides *DC.*
Arcyria incarnata *Pers.*
A. globosa *Schw.*
Phoma nebulosum *Berk.*
Cryptosporium Scirpi *Pk.*
Sphæronema truncatum *Fr.*
S. cæspitosum *Pk.*
S. minutissimum *Pk.*
S. pallidum *Pk.*
Gelatinosporium abietinum *Pk.*
G. betulinum *Pk.*
Acrospermum compressum *Tode.*
Sphæropsis Malorum *Berk.*
S. Platani *Pk.*
S. Pericarpii *Pk.*
S. quercina *Pk.*
S. linearis *Pk.*
Diplodia valsoides *Pk.*
D. peticlaris *Pk.*
D. Lignicola *Pk.*

Hendersonia Platani *Pk.*
H. Sambuci *Pk.*
Darluca filum *Cast.*
Septoria mirabilis *Pk.*
S. acerina *Pk.*
S. salicina *Pk.*
S. ochroleuca *B. & C.*
Dinemasporium graminum *Lev.*
D. herbarum *Cooke.*
Micropera Drupacearum *Lev.*
Discella carbonacea *B. & Br.*
Stilbospora Staphyleæ *Schw.*
Cheirospora botryospora *Fr.*
Torula alnea *Pk.*
Sporendonema Muscæ *Fr.*
Sporidesmium moriforme *Pk.*
Podisoma fuscum *Duby.*
Gymnosporangium clavipes *C. & P.*
Cytispora chrysosperma *Pers.*
Puccinia pulchella *Pk.*
P. arundinacea *Hedw.*
P. linearis *Pk.*
P. obtecta *Pk.*
P. angustata *Pk.*
P. Caricis *DC.*
P. Menthæ *Pers.*
P. Myrrhis *Schw.*
P. Mariæ-Wilsoni *Clinton.*
Urocystis pusilla *C. & P.*
Uromyces triquetra *Cooke.*
U. Euphorbiæ *C. & P.*
Gymnosporium Arundinis *Cd.*
Protomyces Erythronii *Pk.*
Uredo Ledicola *Pk.*
Peridermium Cerebrum *Pk.*
Roestelia aurantiaca *Pk.*
Æcidium crassum *Pers.*
Æ. Calthæ *Grev.*
Æ. Gerardiæ *Pk.*
Æ. Hypericatum *Schw.*
Æ. Asteratum *Schw.*
Stilbum tomentosum *Schrad.*
Atractium flammeum *B. & R.*
Fusarium lateritium *Nees.*
F. roseum *Lk.*
Illosporium roseum *Fr.*
Periconia Azaleæ *Pk.*
Sporocybe byssoides *Fr.*
Clasterisporium pedunculatum *Pk.*
Macrosporium Chartarum *Pk.*
M. Brassicæ *Berk.*
Streptothrix abietina *Pk.*
Cladosporium epiphyllum *Nees.*
Oidium monilioides *Lk.*
Zygodesmus fuscus *Cd.*
Z. olivaceus *B. & C.*
Ascophora Mucedo *Tode.*
Sphærotheca Castagnei *Lev.*
S. pruinosa *C. & P.*
Podosphæra biuncinata *C. & P.*
Microsphæra pulchra *C. & P.*
M. diffusa *C. & P.*
M. extensa *C. & P.*
M. Hedwigii *Lev.*
Erysiphe Martii *Lk.*
Uncinula macrospora *Pk.*
U. circinata *C. & P.*
U. Ampelopsidis *Pk.*
Vibrissea lutea *Pk.*
V. Truncorum *Fr.*
Geoglossum glutinosum *Pers.*
G. simile *Pk.*
G. microsporum *C. & P.*
Nodularia Acericola *Pk.*
Patellaria indigotica *C. & P.*
Helotium epiphyllum *Fr.*
Peziza pellita *C. & P.*
P. badia *Pers.*
P. vesiculosa *Bull.*
P. stercorea *Pers.*
P. Resinæ *Fr.*
P. Kalmiæ *Pk.*
P. leucoloma *Reb.*
P. nivea *Fr.*
P. coronata *Bull.*
P. Solenia *Pk.*
Stictis radiata *Fr.*
Cenangium Cephalanthi *Schw.*
Tympanis conspersa *Fr.*
Rhytisma lineare *Pk.*
R. Andromedæ *Fr.*
Hysterium ilicinum *De Not.*
H. commune *Fr.*
H. scirpinum *Fr.*
H. insidens *Schw.*
Hypocrea gelatinosa *Fr.*
Xylaria acuta *Pk.*

Xylaria filiformis *A. & S.*
Hypoxylon vernicosum *Schw.*
Diatrype atropunctata *Schw.*
D. discreta *Schw.*
D. betulina *Pk.*
Dothidea Kalmiæ *Pk.*
Eutypa lata *Tul.*
Melanconis elliptica *Pk.*
Valsa ambiens *Fr.*
V. thelebola *Fr.*
V. Platani *Schw.*
V. Vitis *Schw.*
V. Colliculus *Wormsk.*
V. Alni *Pk.*
V. truncata *C. & P.*
V. quaternata *Fr.*
V. hapalocystis *B. & Br.*
V. profusa *Fr.*
Massaria Argus *Tul.*
Sphæria hirsuta *Fr.*
Sphæria bombarda *Batsch.*
S. moriformis *Tode.*
S. pulveracea *Ehrh.*
S. salicella *Fr.*
S. Ramulicola *Pk.*
S. Vaccinicola *Schw.*
S. Pezizula *B. & C.*
S. lilacina *Schw.*
S. rubella *Pers.*
S. eccentrica *C. & P.*
S. Petiolorum *Schw.*
S. Kalmiarum *Schw.*
S. melanostyla *Fr.*
S. Fraxicola *Schw.*
S. leucoplaca *B. & R.*
Sphærella spleniata *C. & P.*
Venturia pulchella *C. & P.*
V. orbicula *C. & P.*
V. compacta *Pk.*

(3)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss S. P. MONKS, Cold Spring, N. Y.

Asplenium Rutamurarie *L.*

Miss E. BAILEY, Albany, N. Y.

Utricularia vulgaris *L.*

Miss M. L. WILSON, Buffalo, N. Y.

Pyrenula leucoplaca *Kærb.*
Pannaria nigra *Nyl.*
P. triptophylla *Ach.*
Gyalecta cupularis *Schær.*
Arthonia spectabilis *Flot.*
Verrucaria papillosa *Ach.*
Rinodina ascociscana *Tuck.*
Collema pulposum *Ach.*

E. L. HANKENSON, Newark, N. Y.

Chærophyllum procumbens *Lam.*
Carex Careyana *Dew.*

S. N. COWLES, Otisco, N. Y.

Carex capillaris v. elongata *Olney.*
Botrychium simplex *Hitch.*

R. P. WHITFIELD, Albany, N. Y.

Lactarius Indigo *Schw.*

J. A. LINTNER, Albany, N. Y.

Peridermium Cerebrum *Pk.*

MUNSON PECK, Sandlake, N. Y.

Clavaria rufescens *Schæff.*

E. S. MILLER, Wading River, N. Y.

Utricularia striata *Lec.*
U. purpurea *Walt.*
Sagittaria graminea *Mx.*
Rhynchospora macrostachya *Torr.*
Eleocharis Robbinsii *Oakes.*

Rev. J. L. ZABRISKIE, New Baltimore, N. Y.

Urocystis occulta *Preuss.*
Puccinia variabilis *Grev.*
Rœstelia aurantiaca *Pk.*
Dinemasporium graminum *Lev.*
Erysiphe Martii *Lk.*

VERPLANCK COLVIN, Albany, N. Y.

Cornus Canadensis *L.*
Opuntia Rafinesquii *Engelm.*
Artemisia frigida *Willd.*
Polygonum amphibium *L.*
Limnanthemum lacunosum *Gris.*
Boutelona oligostachya *Torr.*

E. C. HOWE, M. D., New Baltimore, N. Y.

Acnida cannabina *L.*
Rumex orbiculatus *Gr.*
R. Patientia *L.*
Biatora russula *Mont.*
Puccinia Menthæ *Pers.*
P. Polygonorum *Lk.*
Trichobasis Toxicodendri *B. & R.*
Lappa offic. v. tomentosa *Gr.*
Gymnosporangium Juniperi *Lk.*
G. clavipes *C. & P.*
Podisoma fuscum *Duby.*
Hendersonia Robiniæ *West.*
Clasterisporium caricinum *Schw.*
Sphærotheca Castagnei *Lev.*
Podosphæra biuncinata *C. & P.*

W. R. GERARD, Ponghkeepsie, N. Y.

Agaricus rutilans *Schæff.*
Microthyrium Smilacis *De Not.*
Dinemasporium Robiniæ *Gerard.*
Darluca filum *Cast.*
Æcidium Convallariæ *Schum.*
Periconia calicioides *Fr.*
Oidium simile *Berk.*
Torrubia ophioglossoides *Fr.*
Diatrype discreta *Schw.*
Hypoxylon vernicosum *Schw.*
Hysterium tortile *Schw.*
H. commune *Fr.*
H. insidens *Schw.*
H. pulicare *Fr.*
H. vulvatum *Schw.*
Podosphæra biuncinata *C. & P.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Scirpus Clintonii *Gr.*
Carex capillaris *L.*
Equisetum palustre *L.*
Merulius lacrymans *Fr.*
Cystopus cubicus *Str.*
Onygena equina *Pers.*
Diatrype Cercidicola *B. & C.*
Hypoxylon atropurpureum *Fr.*
Sphærotheca Castagnei *Lev.*
Microsphæra holosericea *Lev.*
Puccinia Menthæ *Pers.*
P. Prunorum *Lk.*
P. Mariæ-Wilsoni *Clinton.*
Æcidium Convallariæ *Schum.*
Dothidea Trifolii *Fr.*
Rhytisma Ilicis-Canadensis *Schw.*
Sphæria leucoplaca *B. & R.*
Uncinula macrospora *Pk.*
U. Clintonii *Pk.*
U. Ampelopsidis *Pk.*

HENRY GILLMAN, Detroit, Mich.

Lemna trisulca *L.*
Lemna polyrrhiza *L.*

C. F. AUSTIN, Closter, N. J.

Conomitrium Hallianum *Sulliv.*
Trichostomum lineare *Swartz.*
Mnium rostratum *Schwægr.*
Dicranum spurium *Hedw.*
Hypnum micr. v. anisocarpum *Br. Eu.*
Bryum uliginosum *Brid.*
B. Lescurianum *Sulliv.*
Plagiothecium elegans *Hook.*
P. Mullerianum *Schp.*
Lejeunia hamatifolia *Dumort.*

S. T. OLNEY, Providence, R. I.

By Exchange.

Carex Nuttallii *Schw.*
C. exilis *Dew.*
C. Muskingumensis *Schw.*
C. scoparia *Schk.*
C. lagopodioides *Schk.*
C. albolutescens *Schw.*
C. straminea *Schk.*
C. silicea *Olney.*
C. fœnea *Willd.*
C. littoralis *Schw.*
C. juncea *Willd.*
C. panicea *L.*
C. Torreyi *Tuck.*
C. Hitchcockiana *Dew.*
C. Smithii *Porter.*
C. virescens *Muhl.*
C. flava *L.*
C. cap. v. elongata *Olney.*
Carex glabra *Boott.*
C. Purshii *Olney.*
C. Bebbii *Olney.*
C. tenera *Dew.*
C. alata *Torr.*
C. Houghtonii *Torr.*
C. filifolia *Nutt.*
C. arenaria *L.*
C. stricta *Lam.*
C. torta *Boott.*
C. gynandra *Schw.*
C. crinita *Lam.*
C. conoidea *Schk.*
C. granularis *Muhl.*
C. glaucodea *Tuck.*
C. extensa *Good.*
C. scabrata *Schw.*
C. vestita *Willd.*

UNIVERSITY OF NORWAY, Christiana, Norway.

Usnea barbata *Fr.*
Alectoria sarmentosa *Ach.*
Ramalina fraxinea *Ach.*
Evernia vulpina *Ach.*
E. Prunastri *Ach.*
Cetraria islandica *Ach.*
C. juniperina *Ach.*
Sticta pulmonaria *L.*
Parmelia saxatilis *Ach.*
P. omphalodes *Ach.*
P. conspersa *Ach.*
Theloschistes parietinus *Vorm.*
Lecanora pallescens *Schær.*
L. tartarea *Ach.*
L. cinerea *Fr.*
L. ventosa *Ach.*
Cladonia pyxidata *Fr.*
C. rangiferina *Hoffm.*
Umbilicaria pustulata *L.*
U. hyperborea *Ach.*
U. polyphylla *L.*
Lepraria chlorina *Ach.*

(4)

PLANTS FOUND GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

LYTHRUM ALATUM *Pursh.*

Wet places in pastures. West Albany. Probably introduced from the west.

CHÆROPHYLLUM PROCUMBENS *Lam.*

Along the banks of Clyde river near Lyons. *E. L. Hankenson.*

ARCEUTHOBIUM PUSILLUM *Peck.*

Plant scattered or closely gregarious, small, 6″–10″ high, simple or slightly branched, varying in color from olive-green to chestnut; leaf-like scales opposite, connate at the base, forming a cup-like sheath, broad, scarcely pointed; inflorescence dioecious, flowers terminal and lateral, single in the axils of the scales, sessile, terminal male flower-bud globose, lateral ones compressed, sepals and stamens three, the latter opposite the former; fruit ovate, subacuminate and a little more highly colored toward the apex, nodding on a shortly exserted peduncle, the seed involved in a viscid mucus, escaping from the base of the pericarp.

Flowers in spring; fruit mature in autumn. Living branches of spruce trees, *Abies nigra.* Sandlake, Rensselaer county.

The stems of the fruiting plant, and even the fruit itself, in the dried state, are somewhat quadrangular, but in the fresh state they are nearly terete. The species is related to *Arceuthobium campylopodum* Engelm., but is smaller, less branched, with the scales not cuspidate and the flowers opening earlier in the season. It was detected near Warrensburgh, Warren county, by Mrs. L. Millington, a few weeks previous to its discovery in Sandlake, but I have seen no specimens from that locality. Its range is probably northward.

The trees on which it occurs in Sandlake grow on the low peaty borders of a cranberry marsh. They are few and small and have short leaves and a bushy starved appearance. Such trees in some localities are called "*bastard spruce.*" I suspect the feeble condition of the tree to be the occasion not the result of the attack of the parasite. All the plants, so far as I have observed, grow on the younger parts of the branches, but never on the young and tender shoot of the current season. Considering this as the *first* internode in our progress from the extremity of an affected branch toward the trunk whence it has its origin, we shall find, in September, small hemispherical buds just emerging from the bark of the *second*, small plants with flower-buds occupying the *third* and

full grown plants with mature fruit on the *fourth*. In no instance were mature fruiting plants found on internodes younger than this. On the other hand, however, a few rather large and slightly branched plants were found on the *fifth* and *sixth* internodes. Thus it is evident that this plant requires three seasons for its entire growth and the perfecting of its fruit. In the first season the plant emerges from the bark, in the second it forms its flower-buds, in the third it blossoms, the male plants perishing soon after, the fertile or female plants enduring until the ripening of the fruit in autumn. It is possible that the seeds may sometimes germinate on internodes older than those next to the young shoots of the season or else that the plant may sometimes continue longer than the third season as is indicated by the few specimens on the fifth and sixth internodes. I thought I detected a slight curvature and prolongation of the pith or central portion of the stem below the apparent base of the stem, whence it is not improbable that there is a subcortical or creeping stem which advances with the growth of the branch from year to year, sending up successive crops of plants. This would explain most readily the great abundance of plants and their regular gradation on successive internodes, but I failed to trace any such subcortical connecting stem.

How are the seeds disseminated? Having visited the locality of the plant one month subsequent to its discovery in September, I was a little surprised to find almost no fruit-bearing specimens left. In their stead were here and there little heaps of fragments of stems, fruit and seeds all interningled, adhering to each other and to the branches by the viscid coating of the seeds, in such a manner as to suggest the idea that some insect or bird had been among the plants, breaking them down and perhaps feeding upon the fruit.

I have in no instance found both the male and the female plants on the same branch, nor even on the same tree. If such a remarkable separation is constant it would be interesting to know the cause of it.

UTRICULARIA STRIATA *Lec.*

Wading River, Long Island. *E. S. Miller.*

UTRICULARIA PURPUREA *Walt.*

Wading River, L. I. *Miller.*

RUMEX PATIENTIA *L.*

New Baltimore, Greene county. *E. C. Howe.*

RHYNCHOSPORA MACROSTACHYA *Torr.*

Wading River. *Miller.*

ELEOCHARIS ROBBINSII *Oakes.*

Long Pond near Wading River. *Miller.*

Orthotrichum Peckii *S. & L., ined.*

Stems tufted, simple or sparingly divided, 4″–6″ high; leaves lanceolate, acute, costate to the apex, recurved on the margins, minutely papillose; arcolation subrotund above, quadrate below; capsule terminal, subimmersed, oblong, eight-ribbed and yellowish-brown when dry; peristome single, teeth eight, divided to the base, the parts sometimes separating and appearing like sixteen distinct teeth; calyptra tawny, pilose with long hyaline dentate hairs; spores subglobose, rough, .0005′–.0006′ in diameter.

Damp, shaded rocks. Helderberg Mts. June.

This moss usually presents a sordid, uninviting appearance. The foliage is dark green or blackish, and is often incrusted by minute algæ.

Orthotrichum sordidum *S. & L., ined.*

Trees. Sharon Springs. June.

This plant is larger than *O. Ohioense* S. & L. (formerly *O. Canadense*), and more branched. The dry capsule is pale yellow as in that species, ribbed and slightly contracted below the mouth, with the peristome double. Our specimens are not in proper condition for full description.

Polytrichum strictum *Menz.*

Swamps and summits of the Adirondack Mts. June and July.

This was formerly deemed a variety of *P. juniperinum*, but it is now regarded by most bryologists as a good species.

Hypnum Peckii *Austin n. sp.*

"Cæspites cineraceo vel læte virides. Caulis tenuis, strictus, vage vel subpinnatim ramosus, late cæspitosus, prostratus, intertextus, fragilis. Folia conferta, e basi anguste lanceolata erectaque longe filiformi-acuminata, leniter falcata vel substricta; acumine flexuoso summo apice serrato varie directo, basis angulis rotundatis, haud excavatis, subrotundo-arcolatis; arcolis cæteris oblongis linearibusve, omnibus minutis valde chlorophyllosis; costa in acumen producta. Flores monoico-polygami; folia perichætialia externa costata, haud sulcata (juvenilia), intima minuta, angustissima, ecostata. Flos masc. parce paraphysata, fœm. eparaphysata. Folia perigonialia subæque lata ac longa, apice abruptissime filiformi attenuata, distinctius costata. Fructus ignotus." *Austin MS.*

Rocks in Panther Gorge, at the eastern base of Mt. Marcy. July.

This moss, by its prostrate and closely entangled mode of

growth, forms a thin carpet over the surface of the rocks. The stems are slender and quite fragile, and the leaves, which somewhat resemble those of *H. uncinatum* in outline, are much more straight and appressed.

LEJEUNIA HAMATIFOLIA *Dumort.*

Rocks in rivulets. Rockland county. *Austin.*

PLACODIUM ELEGANS *Lk.*

Rocks. Helderberg Mts. May.

PANNARIA NIGRA *Nyl.*

Rocks. Buffalo. *Miss Wilson.* Spring Valley. *Austin.* Walls of Ft. Putnam, West Point. June.

PANNARIA CRASSOPHYLLA *Tuck.*

Rocks. Adirondack Mts., near the outlet of Lower Ausable Lake. July. A very rare species.

PANNARIA TRIPTOPHYLLA *Ach.*

Rocks. Buffalo. *Miss Wilson.*

BIATORA DECOLORANS *Hoffm.*

Thin soil covering rocks. Dix's Peak and Mt. McIntyre. July.

BIATORA RUSSULA *Mont.*

Bark of maple trees. New Baltimore. *Howe.*

RINODINA ASCOCISCANA *Tuck.*

Bark of trees. Buffalo. *Miss Wilson.*

ARTHONIA SPECTABILIS *Flot.*

Bark of trees. Buffalo. *Miss Wilson.* Portville.

VERRUCARIA PAPILLOSA *Ach.*

Rocks. Buffalo. *Miss Wilson.*

AGARICUS (AMANITA) RUSSULOIDES *Peck.**

Pileus at first ovate, then expanded or convex, rough with a few superficial warts, or entirely smooth, viscid when moist, widely striate-tuberculate on the margin, pale yellow or straw color; lamellæ close, free, narrowed toward the stem, white; stem firm, smooth, stuffed, annulate, equal or slightly tapering upward, bul-

* The species to which the author's name is appended have been published in the *Bulletin of the Buffalo Society of Natural Sciences*, vol. 1, pp. 41-72.

bous; annulus thin, soon vanishing; volva fragile, subappressed; spores broadly elliptical, .0004′ long, .0003′ broad.

Plant 2′–3′ high, pileus 1.5′–2′ broad, stem 3″–5″ thick.

Grassy ground in open woods. Greenbush. June.

This species is remarkable for the thin striate-tuberculate margin of the pileus, which causes it to resemble some species of Russula.

AGARICUS ILLINITUS *Fr.*

Ground in woods. North Elba, Essex county. July.

This is the variety with a smooth margin.

AGARICUS (TRICHOLOMA) DECOROSUS *Peck.*

Pileus firm, at first hemispherical, then convex or expanded, coated with numerous brownish subsquarrose tomentose scales, dull ochraceous or tawny; lamellæ close, rounded and slightly emarginate at the inner extremity, the edge subcrenulate; stem solid, equal or slightly tapering upward, white and smooth at the top, elsewhere tomentose-scaly and colored like the pileus; spores broadly elliptical, .0002′ long, .00015′ broad.

Plant subcæspitose, 2′–4′ high, pileus 1′–2′ broad, stem 2″–4″ thick.

Rotten logs in woods. Catskill Mts. and Rock City, Allegany county. September and October. (Plate 1, figs. 1–4.)

This is a fine species but not common. The margin of the pileus sometimes extends beyond the lamellæ.

AGARICUS (TRICHOLOMA) MULTIPUNCTUS *Peck.*

Pileus fleshy, not thick, brittle, broadly convex, sometimes centrally depressed or subumbilicate, densely dotted with minute brown or blackish scales, yellowish-brown, the disk often darker; lamellæ close, slightly emarginate, yellow, sometimes with a darker edge; stem subequal, squamulose-punctate, hollow, colored like the pileus; spores suborbicular, .00016′ in diameter.

Plant subcæspitose, 1′–2′ high, pileus 1′–2′ broad, stem 2″–4″ thick.

Rotten logs in woods. Sandlake and Adirondack Mts. July and August.

This species is related to *A. rutilans.*

AGARICUS RUTILANS *Schaff.* Poughkeepsie. *Gerard.*

AGARICUS HORDUS *Fr.*

Ground in open woods. Helderberg and Adirondack Mts. June and July.

This Agaric is remarkable for its broad subdistant lamellæ which are very thin and often found split transversely. Sometimes the thin pileus is also split and occasionally virgate. It frequently grows to a very large size and is usually much infested by insects.

AGARICUS (TRICHOLOMA) VIRESCENS *Peck.*

Pileus convex or expanded, sometimes depressed centrally, moist, smooth, dingy green, the margin sometimes wavy or lobed; lamellæ close, gradually narrowed toward the outer extremity, rounded or slightly emarginate at the inner, white; stem subequal, stuffed or hollow, thick but brittle, whitish, sometimes tinged with green; spores broadly elliptical, .0002′ long, .00015′ broad.

Plant 3′–5′ high, pileus 3′–5′ broad, stem 6″–12″ thick.

Mossy ground in open woods. North Elba. July.

The dull smoky-green hue of the pileus is the distinguishing feature of this species.

AGARICUS (TRICHOLOMA) FALLAX *Peck.*

Pileus firm, convex or expanded, rarely depressed in the center, moist, smooth, dull saffron color; lamellæ narrow, crowded, tapering toward the outer extremity, rounded at the inner, yellow; stem short, smooth, stuffed or hollow, usually tapering toward the base, colored like the pileus; spores minute, subelliptical, .00012′ long.

Plant gregarious, 1′–1.5′ high, pileus 6″–15″ broad, stem 1″ thick.

Ground under spruce and balsam trees. North Elba. July. (Plate 1, figs. 5–8.)

This is a pretty little white-spored Agaric, liable from its general appearance to be mistaken for some species of Naucoria. I have seen it in very wet weather only. It appears to be allied to *A. cerinus.*

AGARICUS SINOPICUS *Fr.*

Burnt ground in open places. North Elba. July.

The odor of fresh meal is very distinct in our specimens, but the lamellæ are not crowded. They are sometimes branched and have the interspaces reticulated. The spores are .0003′ long, .0002′ broad.

AGARICUS (COLLYBIA) SUCCOSUS *Peck.*

Pileus firm, between cartilaginous and fleshy, campanulate or convex, minutely tomentose, cinereous or brownish-gray, the margin exceeding the lamellæ and incurved; lamellæ slightly ascending, thin, close, emarginate and slightly decurrent-toothed, tapering toward the outer extremity, whitish; stem firm, equal or slightly

tapering upward, often curved, minutely tomentose, containing a whitish pith; spores subglobose, minute, .00015′ in diameter; flesh abounding in a thin watery or serum-like juice, changing to purplish and black when cut.

Plant 1′–3′ high, pileus 6″–12″ broad, stem 1″ thick.

Rotten logs in woods. Portville, Cattaraugus county. September.

This is a very remarkable and somewhat aberrant species. In color it resembles dark forms of *Hydnum gelatinosum*. In texture it is more firm and fleshy than that plant. The stem is sometimes eccentric. The juice exudes from wounds as in species of Lactarius.

AGARICUS (COLLYBIA) MYRIADOPHYLLUS *Peck*.

Pileus very thin, broadly convex, then expanded or depressed, sometimes umbilicate, hygrophanous, watery brown when moist, pale ochraceous or alutaceous when dry; lamellæ very numerous, narrow, crowded, rounded at the stem and slightly emarginate, brownish-lilac; stem equal, smooth, stuffed, reddish-brown; spores subelliptical, minute, .00012′ long.

Plant subcæspitose, 1′–1.5′ high, pileus 8″–12″ broad, .5″ thick.

Rotten logs and fallen branches in woods. Portville. September.

The lamellæ are more close than in *A. dryophilus*, and remarkable for their singular color.

AGARICUS PELIANTHINUS *Fr*.

Mossy prostrate trunks of trees and among fallen leaves in woods. Adirondack Mts. and Greig. July and September.

AGARICUS (MYCENA) SUBCŒRULEUS *Peck*.

Pileus very thin, campanulate or convex, obtuse, striate, smooth, pale bluish-green; lamellæ narrow, close, tapering outwardly, white; stem slender, equal, pinkish white, slightly pruinose; spores subglobose, .00025′ in diameter.

Plant cæspitose, 2′ high, pileus 4″–8″ broad.

Trunk of a beech tree. Adirondack Mts. July.

The disk is more highly colored than the margin and the pileus has a separable cuticle.

AGARICUS (MYCENA) MINUTULUS *Peck*.

Pileus campanulate or convex, smooth, striatulate, papillate; lamellæ broad, subdistant, with a slight decurrent tooth; interspaces reticulated by transverse veinlets which run down on the

lamellæ; stem short, slender, firm, smooth or sprinkled with minute mealy particles.

Plant gregarious, white throughout, 8'–12' high, pileus 2'–4" broad. Bark of prostrate trunks in woods. Portville. September.

AGARICUS (MYCENA) ROSEOCANDIDUS *Peck.*

Pileus convex or broadly campanulate, subpapillate, striate nearly to the apex, white or rosy-red; lamellæ close, uncinate, white or rosy; stem slender, smooth, white.

Plant 2' high, pileus 4"–6" broad.

Among mosses in woods. Adirondack Mts. July.

Usually the whole plant is pure white, but sometimes the pileus has a delicate rosy hue, except on the apex and margin. In such specimens the lamellæ are tinged with the same color, and the delicate beauty of the whole plant can scarcely be surpassed. The striations of the pileus are clearly seen in the dried specimens. The papilla is sometimes very prominent, sometimes wanting.

AGARICUS DEBILIS *Bull.*

Under spruce and balsam trees. North Elba. July.

AGARICUS RORIDUS *Fr.*

Mossy ground in woods. North Elba. July.

AGARICUS PTERIGENUS *Fr.*

Dead stems of ferns, *Onoclea sensibilis.* Sandlake. September.

The margin of the pileus as well as of the lamellæ is sometimes more highly colored than the rest of the plant.

AGARICUS (OMPHALIA) OLIVARIUS *Peck.*

Pileus convex, umbilicate, smooth, yellowish-olive; lamellæ arcuate, decurrent, subdistant, pale yellow; stem equal, short, smooth, hollow, colored like the pileus; spores subglobose or broadly elliptical, .00026' long.

Plant 1'–1.5' high, pileus 1' broad, stem 1" thick.

Burnt ground under balsam trees. North Elba. July.

AGARICUS GRACILLIMUS *Weinm.*

Dead twigs and leaves in wet places. Sandlake. September.

Our plant does not agree strictly with the description, since the lamellæ are scarcely decurrent and the stem is slightly thickened at the base where it is furnished with an abundance of radiating flocci. It is at least a well marked variety, and may prove to be a distinct species.

Agaricus (Pluteus) sterilomarginatus *Peck.*

Pileus broadly convex or expanded, with a slight oppressed tomentum, white with a faint pinkish tinge, the thin margin exceeding the lamellæ; lamellæ close, subventricose, free, minutely eroded on the edge, tapering outwardly, pale flesh-color; stem short, equal, solid, smooth, sometimes curved, whitish; spores subglobose, angular, with a central nucleus, .00025′ in diameter.

Plant 1′ high, pileus 6″–12″ broad, stem .5″ thick.

Rotten logs and sticks in woods. Portville. September.

The pileus is sometimes cracked, and then it has the appearance of being coated with a thin, scaly paste.

Agaricus (Pholiota) albocrenulatus *Peck.*

Pileus fleshy, firm, convex or campanulate, subumbonate, viscid, rough with dark-brown or blackish floccose scales, yellowish-brown; lamellæ broad, subdistant, emarginate, white-crenulate on the edge, grayish, then ferruginous; stem firm, equal or slightly tapering upward, sometimes curved, stuffed or hollow, squamose and pallid below the evanescent ring, white and slightly furfuraceous above; spores subelliptical, .00045′ long, .00025′ broad.

Plant 3′–5′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Mossy base of maple trees in woods. Adirondack Mts. July and August.

This is a large species, quite rare and somewhat variable. I have never been able to find more than one or two plants in a place. The scales of the pileus sometimes disappear, leaving the surface mottled with dark-colored spots. The spores are subacute at each end and the curvature of one side is greater than that of the other. Under a lens the lamellæ appear to be beaded on the edge with minute milky globules.

Agaricus (Pholiota) Acericola *Peck.*

Pileus thin, except on the disk, broadly convex, glabrous, rugose-reticulated or corrugated, hygrophanous, yellow; lamellæ close, emarginate, grayish, then ferruginous-brown; stem equal or thickened at the base, hollow, fibrillose-striate, white; annulus large, membranaceous, persistent, deflexed, usually stained by the spores which are elliptical, .00035′ long, .00025′ broad.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Mossy trunks of maple trees in woods. North Elba. August.

The large flabby annulus and lacunose pileus enable this species to be easily recognized.

AGARICUS (PHOLIOTA) DISCOLOR *Peck.*

Pileus thin, convex, then expanded or slightly depressed, smooth, viscid, hygrophanous, watery-cinnamon and striatulate on the margin when moist; bright ochraceous-yellow when dry; lamellæ close, narrow, pallid then pale ferruginous; stem equal, hollow, fibrillose-striate, pallid; annulus distinct, persistent; spores elliptical, .00028′ long, .0002′ broad.

Plant subcæspitose 2′–3′ high, pileus 8″–16″ broad, stem 1″ thick.

Old logs in woods. Greig. September.

The change of color from the moist to the dry state is very marked. This species resembles *Agaricus autumnalis*, in which the annulus is fugacious and the spores are longer. The edge of the lamellæ in both is white-flocculose.

AGARICUS (HEBELOMA) PALLIDOMARGINATUS *Peck.*

Pileus brittle, broadly convex, sometimes irregular, smooth, hygrophanous, brown with a pale margin when moist, ochraceous and subatomaceous when dry; lamellæ close, thin, rounded and slightly emarginate at the stem, tapering outwardly, ochraceous-brown; stem usually long and flexuous, equal or tapering upward, hollow, a little paler than the pileus, white-floccose at the base; spores subelliptical, .0004′ long, .0002′ broad.

Plant gregarious, 1′–3′ high, pileus 6″–12″ broad, stem 1″ thick.

Ground in swamps and wet places. Sandlake. September.

AGARICUS PUTRIGENA *B. & C.*

Dead branches. North Elba. July.

AGARICUS SQUAMOSUS *Fr.*

Among fallen leaves in open woods. Portville. September.

Our specimens have the pileus red, the lamellæ olivaceous and spotted, the annulus not distant and the spores .00045′ long, and must therefore be regarded as varying somewhat from the typical form of the species.

AGARICUS (HYPHOLOMA) SACCHARINOPHILUS *n. sp.*

Pileus ovate or hemispherical, then convex, smooth, hygrophanous, pale alutaceous; lamellæ close, narrow, rounded at the stem, pallid, then rosy-brown; stem equal, stuffed, pruinose at the top, substriate, white; spores elliptical, nucleate, .0003′ long.

Plant cæspitose, 2′ high, pileus 1′–2′ broad, stem 2″ thick.

Mossy base of the sugar maple. North Elba. September.

AGARICUS (HYPHOLOMA) HIRTOSQUAMULOSUS *Peck.*

Pileus firm, convex or expanded, hairy-squamulose, hygrophanous, grayish-brown when moist, gray when dry; lamellæ narrow, rounded at the stem, gray, then brown; stem short, firm, equal, hollow, slightly hairy-squamulose and colored like the pileus; spores subelliptical, cymbiform, nucleate, .00025′ long.

Plant 1′ high, pileus 6″–10″ broad, stem scarcely 1″ thick.

Prostrate trunks of maple trees in woods. Portville. September

The minute hairy tufts of the pileus are similar in appearance to those on *A. melleus.*

AGARICUS HIASCENS *Fr.*

Damp ground under willows. West Albany. June.

COPRINUS VARIEGATUS *Peck.*

Pileus fleshy, thin, fragile, oblong-ovate, then campanulate, obtuse, hygrophanous, pale watery-brown when moist, whitish or cream color when dry, variegated by scales or patches of a superficial ochraceous tomentum, the margin finely striate; lamellæ lanceolate, crowded, ascending, free, white, then rosy-brown, finally black; stem equal, brittle, hollow, white, at first peronate-annulate, then floccose-pruinose, with white branching root-like threads at the base; spores subelliptical, .00033′ long.

Plant densely cæspitose, 3′–5′ high, pileus 1′–1.5′ broad, stem 2″–4″ thick.

Thin soil and decaying leaves covering rocks. Slope of Crows Nest near West Point. June.

When young the whole plant is coated by an abundant superficial floccose-tomentum. This soon breaks up into loose scales or patches which peel off in flakes, revealing the smooth pileus beneath. This character will readily distinguish this plant from *C. atramentarius* to which it is allied. The slight abrupt annulus soon vanishes.

HYGROPHORUS CHLOROPHANUS *Fr.*

Mossy ground. Greenbush. June.

Ours is a small form, var. *coccinea*, with the disk of the pileus bright red. This color gradually fades into yellow on the margin where it is varied by the brighter colored striations.

MARASMIUS SEMIHIRTIPES *Peck.*

Pileus thin, tough, nearly plane or depressed, smooth, sometimes striate on the margin, hygrophanous, reddish-brown when moist,

alutaceous when dry, the disk sometimes darker; lamellæ subdistant, reaching the stem, slightly venose-connected, subcrenulate on the edge, white; stem equal, even or finely striate, hollow, smooth above, velvety-tomentose toward the base, reddish-brown.

Plant gregarious, inodorous, 1′–2′ high, pileus 6″–9″ broad, stem .5″ thick.

Ground among fallen twigs and leaves. West Point. June.

MARASMIUS UMBONATUS *Peck.*

Pileus thin, tough, expanded, umbonate, smooth, even or substriate, alutaceous, the margin at first incurved; lamellæ narrow, subdistant, reaching the stem, venose-connected, sometimes branched toward the outer extremity, white; stem equal, solid, velvety-tomentose, tawny below, paler above.

Plant gregarious, 1′–1.5′ high, pileus 6″–9″ broad, stem .5″ thick.

Ground under balsam trees. North Elba. July.

MARASMIUS LANGUIDUS *Fr.*

Dead stems of herbs. Tyre, Seneca county. September.

LENTINUS TIGRINUS. *Fr.*

Decaying wood. Tyre. September.

Nearly all the specimens found had the lamellæ overgrown by a dense white mass of parasitic fungoid filaments.

LENTINUS VULPINUS *Fr.*

Prostrate trunks of ash trees. Portville, September.

LENTINUS HÆMATOPUS *Berk.*

Pileus smooth, expanded or centrally depressed, lobed on the margin, pale yellow or cream color; lamellæ decurrent, often wavy near the inner extremity, distinctly toothed on the inner edge, white; stem short, firm, eccentric, smooth, dark red or chestnut color; spores elliptical, with one or two nuclei, .00025′ long.

Plant 1′ high, pileus 2′ broad.

Prostrate trunks of striped maple, *Acer Pennsylvanicum.* Adirondack Mts. July.

A rare species found but once and then in the deep shades of the Adirondack forests. It is readily known by its smooth pileus and short red or chestnut-colored stem. Our specimens differ from the type in having the pileus lobed and the stem darker colored and eccentric.

BOLETUS SEPARANS *Peck.*

Pileus thick, convex, smooth, shining, sometimes deeply lacunose, brownish-lilac; tubes plane or slightly depressed around the stem, at first white, closed and attached to the stem, then by the expansion of the pileus usually torn from it, small, subrotund, yellow or brownish-yellow; stem solid, nearly equal, distinctly reticulated, dull-lilac; spores .00055′ long, .00022′ broad; flesh white, unchangeable.

Plant 3′–4′ high, pileus 3′ broad, stem 6″–10″ thick.

Grassy ground in open woods. Greenbush. August.

This was mentioned in a previous report as a marked variety of *B. edulis*, but having observed it two years in succession, and finding its distinctive features quite constant, I am induced to consider it a distinct species. The dried specimens have a strong, disagreeable, acid-like odor. Little webby filaments may often be seen stretched across the space between the stem and the tubes that have been torn from it. In dry weather this separation of the stem and the tubes does not always take place.

BOLETUS AFFINIS *Peck.*

Pileus dry, minutely tomentulose, even or slightly rugose, chestnut-colored, soon fading to tawny or ochraceous, the cuticle sometimes cracking into areas; tubes plane or convex, attached to the stem and sometimes depressed around it, at first white and closed, then yellow, small, unequal, angular or subrotund; stem solid, unequal, smooth, rarely reticulated at the top, pallid or tinged with dull red; spores elliptical, .00035′ long, .00016′ broad; flesh white, unchangeable.

Plant 2′ high, pileus 2′–3′ broad, stem 6″–10″ thick.

Grassy ground in open woods. Greenbush. July.

At first sight this plant bears some resemblance to *B. castaneus*. The stem is usually ventricose or tapering toward the base; sometimes compressed at the top. It is seldom found uninfested by the larvæ of insects. The margin of the pileus is sometimes revolute. Like the next preceding species, it belongs to the section *Edules*.

BOLETUS MODESTUS *Peck.*

Pileus firm, convex, often irregular, dry, minutely tomentulose, yellowish-brown; tubes nearly plane, attached and subdecurrent, pale ochraceous, angular and compound; stem equal, brown, reticulated with darker lines; spores elliptical, .0004′ long, .0002′ broad; flesh-gray or pinkish-gray.

Plant 2′ high, pileus 2′ broad, stem 2″–4″ thick.

Grassy ground in open woods. Greenbush. August.

BOLETUS CASTANEUS *Bull.*

Grassy ground in open woods. Greenbush. June.

The spores in this plant are yellow, not white as indicated in Fries' Epicrisis.

POLYPORUS RESINOSUS *Fr.*

Prostrate trunks of hemlock trees, *Abies Canadensis.* Sandlake and Portville. August and September.

POLYPORUS PICIPES *Fr.*

A single specimen of this species was found on a fallen branch at Center.

MERULIUS LACRYMANS *Fr.*

Decaying wood in close, damp places. Greenbush. October. On a flower-pot in a green-house. Buffalo. *Clinton.*

HYDNUM STRIGOSUM *Swartz.*

Prostrate trunk of an ash tree. Portville. September.

CRATERELLUS CÆSPITOSUS *Peck.*

Pileus fleshy, tough, irregular, expanded, centrally depressed or subinfundibuliform, smooth, moist, variable in color, greenish-yellow, pinkish-brown, blackish, the margin usually decurved and somewhat lobed; hymenium at first smooth, then rugose-wrinkled, the folds decurrent on the short solid tough stem which is either central or eccentric; spores oblong, obtuse, sometimes slightly curved, .00035′ to .00045′ long.

Plant cæspitose, 6″–12″ high, pileus 6″–10″ broad.

Rotten logs in a wooded swamp. Portville. September.

This is a singular and somewhat aberrant species. The color is variously modified by blue, green, yellow, olivaceous and violaceous tints. The pilei sometimes grow together, forming an intricate, irregular tuft.

THELEPHORA ANTHOCEPHALA *Fr.*

Ground in open woods. Greenbush. August.

THELEPHORA PEDICELLATA *Schw.*

Living branches of alder trees. Indian Lake. October.

SOLENIA OCHRACEA *Hoffm.*

Rotten wood. Savannah, Wayne county. October.

CLAVARIA RUFESCENS *Schæff.*

Ground in woods. Sandlake. *M. Peck.* Greenbush. August.

This plant occurs after heavy rains. It sometimes grows in continuous rows several feet in extent. The pinkish-red tips of the branches fade with age. The axils are rounded and the plant is quite fragile. Fries considers it a variety of *C. aurea.*

CLAVARIA PUSILLA *Peck.*

Stem slender, solid, rather tough, much and irregularly branched; branches unequal, divergent; tips acute.

Plant scarcely 1′ high, yellowish.

Ground under spruce and balsam trees. North Elba. September.

This plant is distinguished from *C. tetragona* by its terete stems and irregular ramification.

CLAVARIA CLAVATA *Peck.*

Simple, straight, clavate, obtuse, smooth, not hollow, yellow when fresh, rugose-wrinkled and orange-colored when dry, 4′–6′ high.

Damp shaded banks by road-sides. Sandlake. June. (Plate 1, fig. 9.) The surface of the ground where it grows is covered by a green confervoid stratum.

TREMELLA ALBIDA *Huds.*

Dead birch trees. Sandlake. October.

TREMELLA COLORATA *Peck.*

Plant gregarious, swollen, subglobose or irregular, soft, pulpy, raisin-colored when moist, externally black and internally brownish-pink when dry; filaments colored in the mass; spores globose, colored like the hymenium when mature, .0005′ to .0007′ in diameter.

Bark of dead ash trees. Tyre. September.

The plants are generally about one-fourth of an inch thick and high. They burst through the epidermis and stain the surface of the bark a dull reddish color, but within it is stained black. The species may be readily known by the globose colored spores.

STEMONITIS TYPHOIDES *DC.*

Rotten stumps. Greenbush. June.

ARCYRIA INCARNATA *Pers.*

Rotten wood and bark of sticks. Greenbush.
This plant is less frequent than *A. puniceus.*

ARCYRIA GLOBOSA *Schw.*

Fallen chestnut burrs. Sandlake. September.

PHOMA NEBULOSUM *Berk.*

Dead stems of herbs. Albany. May.

CRYPTOSPORIUM SCIRPI *n. sp.*

Perithecia gregarious on a pallid spot, subrotund or quadrangular, black; spores elongated-fusiform, slightly curved, hyaline, .0006′ to .0007′ long.

Dead leaves and sheaths of *Scirpus fluviatilis.* Castleton, Rensselaer county. June.

I find mingled with the fruit of this plant, long clavate, septate, slightly colored spores. Do both belong to one species?

GELATINOSPORIUM NOV. GEN.

Perithecia submembranaceous, erumpent, rupturing at the apex, wrinkled when dry; spores elongated, filiform, simple.

When moist the perithecia gap open at the apex, revealing the whitish gelatinous mass of spores within.

GELATINOSPORIUM ABIETINUM *n. sp.*

Perithecia small, scattered, black; spores excessively elongated, subfiliform, tapering to a long narrow point at each end, more or less curved, usually containing a row of nuclei, subhyaline .0025′ to .003′ long.

Dead branches of hemlock trees. Greenbush. April.

GELATINOSPORIUM BETULINUM *n. sp.*

Perithecia large, clustered, crowded, prominent, bursting through the epidermis by a transverse fissure, irregularly ruptured at the apex, black; spores hyaline, subfiliform, pointed at each end, containing a row of nuclei, .0013′ to .0016′ long.

Dead branches of *Betula lenta.* Greenbush. June.

Usually there are two or three perithecia in a cluster. When dry they appear to form a single irregular mass.

SPHÆRONEMA TRUNCATUM *Fr.*

Rotten wood. North Elba. July.

SPHÆRONEMA CÆSPITOSUM *n. sp.*

Perithecia cæspitose, cylindrical or slightly tapering upward, black; globule black, shining; spores subfusiform, .00045′ long.

Dead branches of *Ilex verticillata*. Sandlake and Center. May and June.

This species is remarkable for its tufted mode of growth and its black globule.

SPHÆRONEMA MINUTISSIMUM *n. sp.*

Perithecia scattered, minute, sphæriform or subconical, obtuse, easily separating from the matrix, black; globule whitish; spores oblong, simple, hyaline, .00028′ long.

Dead branches of black cherry, *Prunus serotina*. Helderberg Mts. May.

The perithecia are seated on the inner bark and leave a small round cavity in the epidermis when broken off. They render the branch rough to the touch.

SPHÆRONEMA PALLIDUM *n. sp.*

Perithecia scattered, erumpent, subconical, obtuse, surrounded by the ruptured epidermis, black; globule pallid or whitish, persistent; spores fusiform, slightly curved, pointed at each end, usually containing two or three nuclei, .00065′ long.

Dead branches of mountain ash, *Pyrus Americana*. Sandlake. June.

ACROSPERMUM COMPRESSUM *Tode.*

Dead stems of herbs. Guilderland and West Albany. May.

SPHÆROPSIS MALORUM *Berk.*

Old apples. New Scotland, Albany county. May.

SPHÆROPSIS PLATANI *n. sp.*

Perithecia hemispherical or convex, thin, black, white within, erumpent; ostiole minute, papillæform; spores elliptical or oblong, colored, .0007′–.001′ long.

Fallen branches of *Platanus occidentalis*. Bethlehem. April.

The rupture of the epidermis is usually triradiate.

SPHÆROPSIS PERICARPII *n. sp.*

Perithecia small, slightly elevated, hemispherical, covered by the epidermis, then rupturing it at the apex; spores colored, .0009′ long.

Old husks of hickory nuts. Albany. May.

SPHÆROPSIS QUERCINA *n. sp.*

Perithecia convex, smooth, erumpent, blackish-brown or black, whitish within, surrounded by the whitish remains of the ruptured epidermis; spores elliptical, hyaline, .00035′ long.

Dead branches of oak trees. Greenbush. May.

SPHÆROPSIS LINEARIS *n. sp.*

Perithecia small, subglobose, thickly scattered or seriately placed, erumpent, black; spores elliptical or oblong, colored, .0008′ to .001′ long.

Dead branches of oak trees. Greenbush. May.

The rupture of the epidermis is often continuous over several perithecia, thus forming longitudinal lines or chinks in the bark. At first the perithecia are covered and minute whitish dots mark their position.

DIPLODIA VALSOIDES *n. sp.*

Perithecia clustered, nestling in the inner bark, tapering into long ostiola, which are united by an olivaceous stroma and erumpent through transverse fissures in the epidermis, black; spores oblong-elliptical, strongly constricted, colored, .00075′ long.

Dead bark of white birch trees, *Betula populifolia.* Center. April.

In habit this is exactly like species of Valsa, but there are no asci present.

DIPLODIA PETIOLARIS *n. sp.*

Perithecia small, scattered, convex or depressed, black; spores elliptical, slightly constricted, usually with a nucleus in each cell, colored, .0008′ long.

Petioles of fallen leaves. Greenbush. October.

DIPLODIA LIGNICOLA *n. sp.*

Perithecia scattered or crowded, prominent, subglobose, black; spores oblong, constricted, .0014′ long, .0004′ broad.

Decorticated wood of balsam trees, *Abies balsamea.* Adirondack Mts. July.

HENDERSONIA ROBINIÆ *West.*

Dead branches of locust trees. New Baltimore. *Howe.*

HENDERSONIA PLATANI *n. sp.*

Perithecia covered by the epidermis and adhering to it by the upper part, depressed, brownish-black or black, the small black

ostiole at length piercing the epidermis; spores black, shining, elliptical-oblong, triseptate, .002′ long, oozing out and staining the bark black.

Fallen branches of *Platanus occidentalis*. Buffalo. *Clinton*. Bethlehem. April.

This closely resembles *Massaria atroinquinans* B. & C., of which it may prove to be a form.

HENDERSONIA SAMBUCI *n. sp.*

Perithecia numerous, scattered, minute, black, at first covered by the epidermis, then piercing it; spores elliptical-oblong, colored, triseptate, .0005′ long, .0002′ broad.

Dead stems of *Sambucus pubens*. Knowersville, Albany county. May.

The immature spores are uniseptate.

DARLUCA FILUM *Cast.*

Various Uredines and *Uromyces Junci*. Poughkeepsie. *Gerard*. Albany. June.

SEPTORIA MIRABILIS *n. sp.*

Spots yellow or brown, angular, limited by the veinlets of the leaves; perithecia hypogenous, minute, opening by a circular orifice, pallid or yellowish; tendrils long, slender, fragile, several from the same perithecium, white; spores large, simple, oblong-obovate or subfusiform, .0013′ to .0016′ long, .0005′ broad.

Fronds of *Onoclea sensibilis*. Sandlake. September.

This species is remarkable for the plurality of its tendrils and the size and shape of its spores. The spores are generally more pointed at one end than at the other.

SEPTORIA ACERINA *n. sp.*

Spots brown or yellow with a brown center, mostly angular; perithecia variable in size and shape, collapsed when dry; spores filiform, curved, simple or very obscurely septate, .0013′ to .0016′ long.

Upper surface of leaves of the striped maple. Keene, Essex county. July.

Sterile specimens are common but the fertile form is rare. This is distinct from *S. Aceris* B. & Br.

SEPTORIA SALICINA *n. sp.*

Spots suborbicular, brown with an arid center; perithecia small, brown, pezizoid when dry; spores filiform, curved, very unequal in length, obscurely two to four septate, .0016′ to .0026′ long.

Upper surface of leaves of *Salix lucida*. Keene. July.

SEPTORIA OCHROLEUCA *B. & C.*

Spots scattered, suborbicular, pallid, with a brown margin which is more conspicuous on the upper surface; perithecia central, minute, scattered, hypogenous, pallid or amber color; spores filiform, curved, simple, .001′ long.

Leaves of chestnut trees. Sandlake. July.

I have seen no description of this species, but specimens received from Dr. Curtis under this name are identical with ours.

DINEMASPORIUM ROBINIÆ *Gerard in lit.*

Perithecia cup-shape, bristly, black; spores hyaline, .0002′ long, the terminal bristles about as long as the spore.

Wood of locust trees. Poughkeepsie. *Gerard.*

DINEMASPORIUM GRAMINUM *Lev.*

Leaves of grasses. New Baltimore. *Rev. J. L. Zabriskie.* Old corn-stalks. Castleton. June.

The spores in this species are .00035′ long, with the terminal bristles about as long as the spore.

DINEMASPORIUM HERBARUM *Cooke.*

Dead stems of herbs and rotten wood. Greenbush. May.

This is given in the Hand-book of British Fungi as a variety of the preceding species, but it is clearly distinct. The spores are about .0006′ long with the terminal bristles scarcely one-third the length of the spore.

MICROPERA DRUPACEARUM *Lev.*

Dead branches of cherry trees. Center. August.

This was associated with young *Cenangium Cerasi* of which it may be a form.

DISCELLA CARBONACEA *B. & Br.*

Dead twigs of willows. Albany. May.

CYTISPORA CHRYSOSPERMA *Pers.*

Dead branches of poplars. Albany. May.

CHEIROSPORA BOTRYOSPORA *Fr.*

Dead branches of beech trees. Greenbush. June.

STILBOSPORA STAPHYLEÆ *Schw.*

Dead twigs of *Staphylea trifolia.* Helderberg Mts. May.

Torula alnea *n. sp.*

Flocci tufted, erumpent, black, composed of nucleated joints about as long as broad, mostly slightly constricted at the septa, here and there strongly constricted.

Dead branches of alder trees. Buffalo. *Clinton.* New Baltimore. *Howe.* Adirondack Mts. July.

Sporendonema Muscæ *Fr.*

Dead bodies of flies. Common. Autumn.

This is *Empusa Muscæ* Cohn. It causes the death of the flies it attacks.

Sporidesmium moriforme *n. sp.*

Spores collected in minute orbicular crowded black tufts, obovate or subelliptical, very obtuse; cells small, paler at the base where there is a subglobose, hyaline cell or peduncle nearly as broad as the spore which is .0013′ to .0015′ long.

Decorticated wood of apple trees. Sandlake. November.

The multicellular spores are suggestive of mulberries.

Gymnosporangium Juniperi *Lk.*

Bark of *Juniperus Virginiana.* New Baltimore. *Howe.* June.

Gymnosporangium clavipes *Cooke & Peck.*

Sori mostly small and subrotund, sometimes confluent, convex, erumpent, orange; spores elliptical, obtuse, attached to a long hyaline peduncle which is gradually thickened toward the top, .0015′ to .0018′ long.

Living branches of *Juniperus Virginiana.* New Baltimore. *Howe.* Bethlehem. May.

This species differs from the preceding in its smaller sori and remarkably thickened peduncles. The apical part of the peduncle is sometimes wider even than the spore itself. The younger branches are slightly swollen where attacked by this fungus and the bark is scaly. When old the fungus becomes a thin shapeless gelatinous mass. The spores germinate at the extremities, each filament absorbing the contents of its own cell.

Podisoma fuscum *Duby.*

Very young branchlets and "Cedar balls" of *Juniperus Virginiana.* New Baltimore. *Howe.* Bethlehem and Helderberg Mts. May.

This species is more abundant in the vicinity of Albany than its congener, *P. macropus.* It has a darker color than that species and the spores and spore tufts are shorter.

PUCCINIA PULCHELLA *Peck.*

For the details of this species and also of *P. linearis*, *P. obtecta*, *P. angustata*, *P. arundinacea*, *P. Caricis*, *P. Menthæ*, *P. Myrrhis*, *P. variabilis* and *P. Mariæ-Wilsoni*, see the Synopsis of the genus Puccinia in the closing section of this report.

UROCYSTIS OCCULTA *Preuss.* (*Polycystis parallela* B. & Br.).

Leaves of grass. Flatbush, L. I. *Zabriskie.* May.

UROCYSTIS PUSILLA *Cooke & Peck.*

Spots none; sori oblong or linear, parallel, prominent, narrow, black; spores subglobose, irregular, usually two-celled, .0003′ to .0004′ in diameter.

Leaves of *Carex Pennsylvanica.* Bethlehem and Center. May and June.

UROMYCES TRIQUETRA *Cooke.*

Leaves of various species of Hypericum and of *Elodea Virginica.* North Elba, Sandlake and Portville. July to October.

UROMYCES EUPHORBIÆ *Cooke & Peck.*

Leaves generally stained with red or purple; sori amphigenous, subrotund, slightly convex, surrounded by the ruptured epidermis, ferruginous-brown or blackish-brown; spores subglobose, rough, often with a large nucleus, about .0008′ in diameter; peduncle short, hyaline.

Leaves of *Euphorbia hypericifolia.* Albany and Center. August and September.

GYMNOSPORIUM ARUNDINIS *Cd.*

Base of dead stems of *Phragmites communis.* Watkins and Montezuma marshes. September.

PROTOMYCES ERYTHRONII *Peck.*

Spots stained with red or purple; spores growing in the tissues of the leaf, scattered or crowded, most often arranged in short series, large, globose, black, .002′ to .0026′ in diameter.

Leaves and petioles of *Erythronium Americanum.* Greenbush. May.

UREDO LEDICOLA *Peck.*

Spots small, definite, rarely confluent, suborbicular, reddish-brown, sometimes with a darker border; sori subrotund or irregu-

lar, surrounded by the ruptured epidermis; spores subglobose, rough, .0012′ in diameter, orange, with a thick hyaline epispore.

Upper surface of leaves of *Ledum latifolium*. Summit of Mt. Marcy. July.

This seems to me to be quite distinct from *U. Ledi* A. & S. which is said to grow on the lower surface of leaves of *L. palustre* and to form yellow spots.

PERIDERMIUM CEREBRUM *Peck.*

Peridia large, convex, erumpent, irregularly confluent, forming brain-like convolutions, white, rupturing irregularly, the cells granulose, radiate-striate on the margin; spores variable, ovate elliptical or subglobose, rough, yellow, .0008′ to .0011′ long.

Trunks and branches of young pines, *Pinus rigida*. Center. May.

This fungus forms excrescences from half an inch to two inches in diameter on the trunks and branches. On the smaller branches the excrescence puffs out equally on all sides of the branch. The outer bark comes off in large scales, revealing the bright yellow fungus which has produced the unseemly swelling.

This plant was first detected by Mr. J. A. Lintner, who brought me specimens and made known its locality.

CYSTOPUS CUBICUS *Str.*

Leaves of Canada thistle. Buffalo. *Clinton.*

RŒSTELIA AURANTIACA *Peck.* (Plate 1, figs. 10–12.)

Peridia deeply seated, cylindrical, fragile, soon lacerated, fugacious, white; spores subglobose, bright orange, about .001′ in diameter, with a thick hyaline epispore.

Fruit of *Amelanchier Canadensis*. New Baltimore. *Zabriskie.* Keene. July. Also on the fruit of Cratægus. Buffalo. *Clinton.*

It is remarkable that this species should have entirely escaped the notice of collectors hitherto and that it should now be detected, in one season, in three widely separated localities, by three different persons. The color of the spores will enable this plant to be readily distinguished from its congeners. It seems to occur on the unripe fruit only. The Amelanchier leaves and fruit are inhabited by three species of Rœstelia.

ÆCIDIUM CRASSUM *Pers.*

Leaves of buckthorn, *Rhamnus catharticus*. Albany. June.

ÆCIDIUM CALTHÆ *Grev.*

Leaves and petioles of *Caltha palustris*. Guilderland, May.

ÆCIDIUM HYPERICATUM *Schw.*

Leaves of *Hypericum ellipticum.* Poughkeepsie. *Gerard.* North Elba. August.

ÆCIDIUM ASTERATUM *Schw.*

Leaves of Asters. North Greenbush. June.

ÆCIDIUM CONVALLARIÆ *Schum.*

Leaves of wild lilies. Poughkeepsie. *Gerard.* Buffalo. *Clinton.* June.

ÆCIDIUM GERARDIÆ *Peck.*

Spots small, subrotund, scattered, yellowish-green; peridia usually few, small, short, the mouth notched with spreading or recurved teeth; spores orange, .0008′ in diameter.

Leaves of *Gerardia quercifolia.* Highlands near Cold Spring. June.

From four to ten peridia generally occupy each spot. The leaves turn black in drying but the spots often retain a greenish hue.

TRICHOBASIS TOXICODENDRI *B. & R.*

Spots small, brown, suborbicular; sori subrotund, sometimes confluent, reddish-brown; spores subovate, beautifully marked with longitudinal or oblique striations.

Leaves and petioles of *Rhus Toxicodendron.* New Baltimore. *Howe.*

This is probably the Uredo form of *Pileolaria brevipes.*

STILBUM TOMENTOSUM *Schrad.*

Growing on *Trichia clavata.* Portville. September.

ATRACTIUM FLAMMEUM *B. & R.*

Bark of living mountain ash. Sandlake. September.

FUSARIUM LATERITIUM *Nees.*

Old galls of *Celtis occidentalis.* Cold Spring. June.

Spores curved, .001′ to .0013′ long.

FUSARIUM ROSEUM *Lk.*

Dead stems of Asclepias. Castleton. June.

The spores in this species are more slender and .0016 to .0023′ long.

ILLOSPORIUM ROSEUM *Fr.*

Growing on lichens, *Physica stellata.* Sandlake. October. Buffalo. *Clinton.*

PERICONIA AZALEÆ *Peck.*

Plant small, .03′–.04′ high, black; stem slightly tapering upward; head globose; spores subglobose or elliptical, colored, .0002′ to .0003′ long.

Twigs, capsules and old galls of *Azalea nudiflora.* New Scotland. June.

SPOROCYBE BYSSOIDES *Fr.*

Dead stems of herbs. West Albany. May.

MACROSPORIUM BRASSICÆ *Berk.*

Decaying cabbage leaves. Albany. August.

MACROSPORIUM CHARTARUM *Peck.*

Flocci long, jointed, flexuous, branched, colored; branches widely spreading, often at right angles to the stem, somewhat nodulose; spores subglobose, elliptical, obovate or pyriform, black, shining, one to three septate, with one or two longitudinal septa, .0006′ to .001′ long.

Damp paste-board. Albany. November.
It forms indefinite black spots or patches.

CLASTERISPORIUM CARICINUM *Schw.*

Old leaves of Carices. New Baltimore. *Howe.*

CLASTERISPORIUM PEDUNCULATUM *Peck.* (Plate 1, figs. 16–18.)

Flocci erect, opaque, septate; spores terminal, nearly straight, multiseptate, colored, mostly subfusiform or lanceolate, about .003 long, the terminal cell hyaline.

Cut surface of wood. Savannah. October.
The spores easily break from the flocci on which they are supported as if on a peduncle half their own length. Their greatest thickness is usually near the base, the lower part tapering rapidly, the upper, gradually to their respective extremities. Some spores are oblong, others linear. They are seldom strongly curved and this character is not always present even in *C. caricinum.*

STREPTOTHRIX ABIETINA *Peck.* (Plate 1, figs. 13–15.)

Tufts subglobose, scattered or crowded, blackish-brown; flocci branched, pale, echinulate; spores globose, minutely rough, .00025′ to .0003′ in diameter.

Bark of prostrate spruce trunks. Sandlake. September.
The larger spores and echinulate threads separate this from *S. atra* B. & C.

CLADOSPORIUM EPIPHYLLUM *Necs.*

Fallen leaves of *Platanus occidentalis.* Castleton. June.

OIDIUM SIMILE *Berk.*

Decaying wood. Poughkeepsie. *Gerard.*

OIDIUM MONILIOIDES *Lk.*

Living grass leaves. West Albany. June.

ZYGODESMUS FUSCUS *Cd.*

Decaying wood and leaves. Greenbush. July.

ZYGODESMUS OLIVACEUS *B. & C.*

Decaying wood. Sandlake. September.
This scarcely differs from the preceding species except in its olivaceous color.

ASCOPHORA MUCEDO *Tode.*

Stale bread. Albany.

ONYGENA EQUINA *Pers.*

Old hoofs. Buffalo. *Clinton.*

SPHÆROTHECA CASTAGNEI *Lev.*

Both sides of various leaves. Common.

SPHÆROTHECA PRUINOSA *C. & P.*

Hypogenous; mycelium thin, effuse, persistent; conceptacles minute, black; appendages few, long, colorless; sporangium ovate, eight spored.

Leaves of *Rhus glabra.* Greenbush. August.
The long colorless appendages readily distinguish this species from the preceding. The whole lower surface of the leaf appears whitened as if pruinose.

PODOSPHÆRA BIUNCINATA *C. & P.*

Mycelium thin; conceptacles minute, black; appendages six to ten, very long, colorless, biuncinate, the tips of the divisions sometimes again divided; sporangium globose, containing eight spores.

Upper surface of leaves of the witch hazel, *Hamamelis Virginiana.* Poughkeepsie. *Gerard.* New Baltimore. *Howe.* Sandlake. September.

This is a very distinct species. The branches at the tips of the appendages are slightly curved and diverge nearly at right angles to the appendage. When mature the plants often become collected in entangled masses, giving the leaf the appearance of being coated with dusty cobwebs.

Microsphæra pulchra *C. & P.*

Amphigenous; mycelium thin, persistent; conceptacles numerous, globose, black; appendages eight to twelve, about equal in length to the diameter of the conceptacles, colorless; sporangia four or five, containing four to six spores.

Leaves of *Cornus alternifolia.* Greenbush. September.

The mycelium is more conspicuous on the upper than on the lower surface of the leaves. The conceptacles are often closely placed over large portions of the leaf.

Microsphæra diffusa *C. & P.*

Mycelium thin, evanescent; conceptacles minute, globose, black; appendages numerous, eighteen to twenty-five, in length once or twice the diameter of the conceptacle, colorless, somewhat irregularly divided and slightly nodulose at the tips; sporangia ovate, four to six, containing four to six spores.

Leaves of *Desmodium Canadense.* Albany. September and October.

This plant generally occupies the upper surface of the leaf but sometimes spreads to the lower.

Microsphæra extensa *C. & P.*

Mycelium thin, effuse, persistent; conceptacles globose, black; appendages eight to twelve, in length three or four times the diameter of the conceptable, colorless; sporangia four, subglobose or ovate, containing four to six spores.

Upper surface of oak leaves, *Quercus rubra.* Greenbush. September and October.

It frequently occupies the whole upper surface of the leaf but I have never seen it extend to the lower surface. It may readily be distinguished by its habit and fewer differently shaped sporangia from *M. Vaccinii* which also has very long appendages.

Microsphæra holosericea *Lev.*

Leaves of Astragalus. Buffalo. *Clinton.* October.

Microsphæra Hedwigii *Lev.*

Leaves of *Viburnum Lentago.* Albia, Rensselaer county. September and October.

ERYSIPHE MARTII *Lk.*

Leaves and stems of pea vines. New Baltimore. *Zabriskie.* Sandlake, October.

UNCINULA MACROSPORA *Pk.* (Trans. Alb. Inst., vol. vii, p. 215.)

Mycelium effused, persistent; conceptacles subglobose; appendages numerous, thirty or more, about equal in length to the diameter of the conceptacle; sporangia eight to twelve; spores two, very large, elliptical, .0012 – .0015 inch long.

Leaves of elm trees. Buffalo. *Clinton.*

This was at first thought to be *U. Bivonæ* Lev., but that species is described as having an evanescent mycelium, only four sporangia and ten to twenty appendages.

UNCINULA CIRCINATA *C. & P.*

Mycelium dense, effuse, persistent; conceptacles large, depressed or flattened, black; appendages very numerous, slender, about equal in length to the diameter of the conceptacle, simple, colorless; sporangia oblong or narrowly ovate, eight to sixteen, containing eight spores.

Under surface of maple leaves, *Acer spicatum* and *A. rubrum.* Watkins and Greenbush. September and October.

This species is related to *U. bicornis* from which it is distinguished by its hypogenous habit, more numerous sporangia and always simple appendages. It usually occupies the whole under surface of the leaf.

UNCINULA AMPELOPSIDIS *Pk.* (Trans. Alb. Inst., vol. vii, p. 216.)

Amphigenous; mycelium web-like, thin, evanescent; conceptacles minute, globose, black; appendages ten to twenty, in length once or twice the diameter of the conceptacle, simple, obscurely septate toward the base, colored, a little paler at the tips; sporangia four to six, subglobose or ovate, containing four to six spores.

Leaves of the woodbine, *Ampelopsis quinquefolia.* Buffalo. *Clinton.* Greenbush. August to October.

The colored appendages are characteristic of this species.

UNCINULA CLINTONII *Pk.* (Trans. Alb. Inst., vol. vii, p. 216.)

Amphigenous; mycelium thin, persistent; conceptacles small, globose, black; appendages fifteen to twenty-five, about equal in length to the diameter of the conceptacle, colorless, slightly thickened toward the uncinate-coiled tips; sporangia four to six, containing four to six spores.

Leaves of *Tilia Americana*. Buffalo. *Clinton*. Watkins. September and October.

The thickened tips of the appendages are characteristic of this species. The mycelium is more conspicuous on the upper than on the lower surface of the leaf. I take pleasure in dedicating this species to its discoverer, *Hon. G. W. Clinton*.

GEOGLOSSUM GLUTINOSUM *Pers.*

Borders of swamps. Sandlake. September.

The viscid stem is the most available character for separating this species from *G. hirsutum*. In both species the spores are fifteen-septate.

GEOGLOSSUM SIMILE *Peck.*

Plant 1'–2' high, black; club obtuse, generally compressed, sometimes with a broad shallow groove on one side, hairy, tapering into the stem; asci broad; spores fasciculate, elongate, slightly curved, seven-septate, colored, .003'–.004' long; paraphyses slightly thickened at the tips, septate, sometimes branched.

Damp mossy ground in swamps. Fort Edward. *Howe*. Sandlake. September.

Externally this species can scarcely be distinguished from *G. hirsutum*, but its shorter seven-septate spores and paler paraphyses with tips less recurved and more distinctly septate are distinguishing characters too marked to be overlooked.

GEOGLOSSUM MICROSPORUM *C. & P.*

Plant 1' high, black; club obtuse, smooth, viscid when moist, distinct from the minutely squamulose stem; spores crowded or biseriate, cylindrical, obtuse, slightly curved, simple, hyaline, .0007'–.0013' long.

Burnt ground under *Pteris aquilina*. Greig. September. This species is allied to *G. viride*. When moist the spores ooze out on the viscid surface.

VIBRISSEA LUTEA *Peck.* (Plate 1, figs. 19–23.)

Plant 6''–12'' high, yellow; receptacle subglobose, smooth, the margin slightly lobed, inflexed, free; stem nearly equal, solid, a little more highly colored than the receptacle, longitudinally wrinkled when dry; asci clavate or cylindrical; spores long, filiform.

Prostrate, mossy trunks of trees and among fallen leaves in woods. North Elba. August.

The free margin of the receptacle is an anomalous character in this species. It is larger than the next, the receptacle being 2''–3'' in diameter.

VIBRISSEA TRUNCORUM *Fr.*

Sticks and twigs lying in water. Sandlake. June.

NODULARIA ACERICOLA *n. sp.*

Cæspitose, small, fleshy, irregular, pale yellow, open from the first; disk plane or convex, slightly pruinose, the margin obsolete; asci clavate; spores crowded or biseriate, oblong, sometimes curved, .001′–.0013′ long, .00033′ broad; paraphyses thickened at the tips, subflexuous, slightly nodulose.

Dead branches of *Acer spicatum*. North Elba. August.

The tufts usually contain from three to eight plants and are about one line broad.

PATELLARIA INDIGOTICA *C. & P.*

Cups sessile, scattered or crowded, nearly plane, margined, black, the disk tinged with blue; asci subcylindrical; spores crowded or biseriate, subclavate, seven to nine-septate, with a nucleus in each cell, subhyaline, .0015′–.002′ long.

Decaying wood. Savannah. October.

The bluish tint of the hymenium is distinctly seen when a portion of the disk is moistened and crushed on the slide of the microscope.

HELOTIUM EPIPHYLLUM *Fr.*

Decaying leaves in swamps. Sandlake. August.

PEZIZA VESICULOSA *Bull.*

Dung heaps. West Albany. June.

PEZIZA PELLITA *C. & P.*

Sessile, subglobose, then expanded and radiately splitting into four or five irregular lobes, 6′–10′ in diameter; externally brown, clothed with septate flexuous hairs; disk yellowish, sometimes tinged with red; asci cylindrical; spores elliptical, .0007′–.001′ long; paraphyses slightly clavate at the tips.

Thin soil covering rocks. Lower Ausable Lake. Adirondack Mts. July.

PEZIZA BADIA *Pers.*

Damp ground and shaded banks by roadsides. Sandlake and North Elba. August and September.

PEZIZA STERCOREA *Pers.*

Excrement of cattle. North Elba. August.

PEZIZA RESINÆ *Fr.*

Gum spots on spruce trees, especially on the "blaze" marks of old trails and boundary lines in woods. Adirondack Mts. July.

PEZIZA KALMIÆ *n. sp.*

Cups minute, sessile, nearly plane, margined, externally furfuraceous and dull gray, the margin at first incurved; disk pinkish-brown; spores elliptical, mostly nucleate, .0004′ long, .0002′ broad.

Dead stems and branches of *Kalmia angustifolia*, extending also on *Dothidea Kalmiæ*. Sandlake. September.

PEZIZA LEUCOLOMA *Reb.*

Ground among mosses. Genesee, Allegany county. Sept.

PEZIZA NIVEA *Fr.*

Dead stems of herbs. Portville. September.

PEZIZA CORONATA *Bull.*

Dead stems of herbs. Portville. September.

This is a beautiful species, about one line high and readily known by the peculiarly ciliate-pectinate margin. The stem is straight or flexuous.

PEZIZA SOLENIA *Peck.*

Cups minute, nearly cylindrical, hairy, brown, opening by a contracted white-margined mouth; spores oblong, crowded or biseriate, uniseptate, usually with four nuclei, subhyaline, .0005′ long; paraphyses filiform.

Dead stems of *Eupatorium ageratoides* in damp shaded places. Watkins Glen. September.

The cups are a little longer than broad and appear like some minute Solenia.

STICTIS RADIATA *Fr.*

Petioles of ash leaves. Portville. September.

The white margin is sometimes lobed in such a way as to resemble the peridia of Æcidium.

CENANGIUM CEPHALANTHI *Schw.*

Dead branches of *Cephalanthus occidentalis*. Greenbush. July.

TYMPANIS CONSPERSA *Fr.*

Dead trunks of *Prunus Pennsylvanica*. Mud Lake, Essex county. July.

The specimens are sterile and to this extent doubtful.

RHYTISMA ANDROMEDÆ *Fr.*

Leaves of *Andromeda polifolia.* Sandlake. September.

RHYTISMA ILICIS-CANADENSIS *Schw.*

Leaves of *Nemopanthes Canadensis.* Buffalo. *Clinton.*

RHYTISMA LINEARE *Peck.* (Plate 1, figs. 24–26.)

Plant linear, here and there interrupted or constricted, black; asci broad, clavate, eight-spored; spores very long, obtuse, strongly narrowed in the middle, involved in mucus, .002′–.003′ long.

Leaves of pine trees, *Pinus Strobus.* Guilderland, Greenbush and Sandlake. June.

This species is well marked by the singular form of the spores, which appear to consist of two oblong portions connected by a narrow neck. It forms a thick black line on the lower surface of the leaf, often extending the entire length. The leaves that are attacked soon die and fall to the ground. The specimens that I have seen are seldom fertile, only those from the first named locality containing spores.

HYSTERIUM ILICINUM *De Not.*

Fallen oak leaves. Watkins. September.

HYSTERIUM SCIRPINUM *Fr.*

Base of dead stems of *Scirpus validus.* Montezuma marshes. September.

HYSTERIUM COMMUNE *Fr.*

Dead stems of herbs. Very common. Fertile specimens were found in September.

HYSTERIUM INSIDENS *Schw.*

Chestnut rails and posts. Poughkeepsie. *Gerard.* Greenbush. September to November.

HYSTERIUM TORTILE *Schw.*

Bark of *Juniperus Virginiana.* Poughkeepsie. *Gerard.*

HYPOCREA GELATINOSA *Fr.*

Dead alder branches. Center.

TORRUBIA OPHIOGLOSSOIDES *Tul.*

Poughkeepsie. *Gerard.*

XYLARIA FILIFORMIS *A. & S.*

Dead stems of herbs in a wooded swamp. Portville. September.

XYLARIA ACUTA *n. sp.*

Plant gregarious or subcæspitose, 1′–1.5′ high; club cylindrical or subfusiform, generally with a sterile acute apex, blackish-brown, central substance white with a radiating structure; stem involved in a dense purplish mucedinous tomentum which causes it to appear bulbous; perithecia globose, black; spores uniseriate, elliptical, sometimes slightly curved, colored, .0006′–.0007′ long.

Mossy decaying logs in woods. Greig. September.

This species is related to *X. digitata* from which it differs in its less cæspitose habit, and in the character of the stem and central substance. According to Fries, *X. digitata* has a "simple central pith," in this species the central pith is radiating as in *X. polymorpha.*

HYPOXYLON VERNICOSUM *Schw.*

Sticks and dead branches. Poughkeepsie. *Gerard.* Adirondack Mts. July.

HYPOXYLON ATROPURPUREUM *Fr.*

Decaying wood. Buffalo. *Clinton.*

DIATRYPE ATROPUNCTATA *Schw.*

Dead branches of oak trees. Greenbush. August.

DYATRYPE DISCRETA *Schw.*

Dead branches of apple trees. Poughkeepsie. *Gerard.* Bethlehem and Guilderland. May.

DIATRYPE CERCIDICOLA *B. & C.*

Stroma black, plane, suborbicular, 3″–4″ in diameter, thin, seated on the inner bark, surrounded by the ruptured epidermis, dotted by the minute depressed or umbilicate at length perforate ostiola; perithecia crowded, elliptical or ovate, spores unequally ovate, colored, .0004′ long.

Bark of unknown wood. Buffalo. *Clinton.* March.

The inner surface of the bark is stained black. I have seen no description of this species, but the specimens agree with those received from Dr. Curtis and labeled by him *Diatrype Cercidicola* B. & C.

DIATRYPE BETULINA *n. sp.* (Plate 1, figs. 27–31.)

Stroma transversely erumpent, elliptical, prominent, penetrating to the wood on which it forms a white spot surrounded by a black line, green within, black on the surface, which is nearly plane and

dotted by the numerous slightly prominent stellate ostiola; perithecia crowded in a single layer, elliptical, black; asci long, containing many spores; spores sausage-shaped, yellowish in the mass, .0002′ long.

Dead branches of birch trees, *Betula lutea*, in woods. Greig. September.

This species belongs to the subgenus Diatrypella and may be readily known by the green stroma. Externally it resembles *Melanconis elliptica*.

EUTYPA LATA *Pers.*

Decaying wood. Greenbush and Castleton. May and June.

DOTHIDEA TRIFOLII *Fr.*

Leaves of clover. Buffalo. *Clinton*. Sterile.

DOTHIDEA KALMIÆ *n. sp.*

Thin, effuse, investing the branches, black, shining, brownish within; cells small, whitish within; asci linear; spores uniseriate, uniseptate, constricted, subhyaline, .0004′–.0005′ long, half as broad, the cells generally nucleate and unequal.

Branches of *Kalmia angustifolia*. Sandlake. September.

This plant forms a black crust which entirely surrounds the smaller branches, and which, in fertile specimens, is seen by careful inspection to be minutely dotted with black points or ostiola. Within it has the appearance of half charred wood. It kills the branches attacked. A form of this plant was found in June, destitute of asci but having oblong, simple, spore-like bodies, .0008′ long.

MELANCONIS ELLIPTICA *n. sp.*

Stroma transversely erumpent, elliptical, prominent, seated on and discoloring the inner bark, black on the surface, having an olivaceous tinge within; perithecia small, immersed in the basal part of the stroma, subglobose, black; ostiola few, papillate, sometimes surrounded by an impressed line; spores crowded or biseriate above, colored, elliptical-oblong, five-septate, .0011′–.0013′ long, .0005′ broad.

Bark of dead birches, *Betula populifolia*. Center. November and April.

This species is apparently related to *M. lanciformis*, but the spores are smaller. The aperture in the epidermis is acute at each end.

VALSA AMBIENS *Fr.*

Dead branches of apple trees, also of poplars. Guilderland and Indian Lake. October and May.

Valsa thelebola *Fr.*

Dead branches of alders. West Albany. June.

Valsa Platani *Schw.*

Fallen branches of *Platanus occidentalis.* Bethlehem. May.

Valsa Vitis *Schw.*

Dead branches of grape-vines. Greenbush. November.

Valsa Colliculus *Wormsk.*

Dead branches of pine trees. Center. April.

Valsa quaternata *Fr.*

Dead branches of beech trees. Greenbush. August.

Valsa truncata *C. & P.*

Spermogonia — Cytisporoid, disk erumpent, truncate, pulverulent in the center, sometimes having a bilabiate appearance; spermatia amber in the mass, minute, linear.

Ascophore — Erumpent, prominent, truncate; perithecia six to eight, nestling in the inner bark, globose, black, the necks united in an elliptical or orbicular black disk which is pierced by the ostiola and generally pulverulent on the margin; asci small, lanceolate; spores minute, sausage-shaped, hyaline, .00035–.0004′ long.

Dead branches of alders. Johnsburgh, Warren county. October.

The truncate brownish-powdered disk is a characteristic feature in this species. The dust of the disk seems to disappear after a time.

Valsa Alni *n. sp.*

Perithecia nestling in the inner bark, black; ostiola short, black, obtuse, dotting the small blackish mostly transversely erumpent disk; spores crowded or biseriate, sausage-shaped, hyaline, .0004′–.0005′ long.

Trunks and branches of dead alders. Center. April.

This plant is plentiful where it occurs, rendering the branch rough for several feet in extent.

Valsa profusa *Fr.*

Dead branches of locust trees, *Robinia pseudacacia.* Albany. June.

This, according to specimens received from Dr. Curtis, is *Massaria macrospora* B. & C. In both this and the next species the bark is stained black by the spores oozing out as in Massaria.

VALSA HAPALOCYSTIS B. & Br.

Dead branches of *Platanus occidentalis*. Bethlehem. April.

MASSARIA ARGUS *Tul.*

Dead branches of birch trees. Portville. September.

SPHÆRIA HIRSUTA *Fr.*

Decaying wood. Sandlake. October.

SPHÆRIA BOMBARDA *Batsch.*

Decaying wood. Portville. September.

SPHÆRIA MORIFORMIS *Tode.*

Decaying wood. Catskill Mts. July.

SPHÆRIA PULVERACEA *Ehrh.*

Bark of oak trees. Greenbush. August.

SPHÆRIA SALICELLA *Fr.*

Dead branches of willows. Greenbush. May.

SPHÆRIA RAMULICOLA *n. sp.*

Perithecia small, scattered, seated on the inner bark, erumpent by an angular or subcircular aperture, subglobose, subfibrous, black, white within; ostiola minute, indistinct; asci cylindrical; spores elliptical, uniseriate, biseptate, slightly constricted, colored, .0008'–.0011' long, .00055' broad.

Dead twigs of elm trees. Greenbush. May.

The perithecia are abundant on all sides of the smaller branches, rendering them rough to the touch.

SPHÆRIA VACCINICOLA *Schw.*

Dead twigs of *Vaccinium corymbosum*. Sandlake.

SPHÆRIA PEZIZULA *B. & C.*

Dead branches of *Cornus alternifolia*. Sandlake. April.

SPHÆRIA LILACINA *Schw.*

Dead stems of *Phytolacca decandra*. Trenton Falls. September.

SPHÆRIA RUBELLA *Pers.*

Dead stems of herbs. Castleton. June.

SPHÆRIA ECCENTRICA *C. & P.*

Perithecia scattered, depressed, black, at first covered by the epidermis which is pierced by the eccentric or lateral curved acute rostellate ostiola, at length superficial; asci subclavate; spores crowded or biseriate, subfusiform, four-nucleate, hyaline, .00035′ long.

Dead stems of Polygonum. Albany and Portville. June an September.

SPHÆRIA PETIOLORUM *Schw.*

Fallen petioles of ash trees. Guilderland. May.

SPHÆRIA KALMIARUM *Schw.*

Fallen leaves of *Kalmia latifolia.* Watkins. September.

SPHÆRIA MELANOSTYLA *Fr.*

Fallen leaves of *Tilia Americana.* Helderberg Mts. May.

SPHÆRIA FRAXICOLA *Schw.*

Fallen leaves of ash trees. Greenbush. November.

The specific name is apparently badly formed. Probably it was intended for *Fraxinicola*, but that name is now applied to another species.

SPHÆRIA LEUCOPLACA *B. & R.*

Excrement of cattle. Buffalo. *Clinton.* Center. November.

SPHÆRELLA SPLENIATA *C. & P.*

Perithecia minute, closely grouped in rather large, distant, suborbicular or angular clusters, globose, black, nestling in the tomentum of the leaf; asci linear; spores oblong, hyaline, uniseptate, .0005′–.0006′ long.

Under surface of fallen leaves of oak trees, *Quercus bicolor* Willd. Greenbush. June.

VENTURIA ORBICULA *C. & P.*

Perithecia minute, globose, superficial, black, collected in orbicular clusters, hispid with persistent black bristles; asci short, subclavate; spores crowded, uniseptate, with the cells generally unequal, colored, .0004′ long, .00018′ broad.

Under surface of fallen leaves of oak trees, *Quercus montana* Willd. Sandlake, Albany and Guilderland. May and June.

The spots are about on -fourth of an inch in diameter and the upper surface of the leaf is mottled by them.

VENTURIA PULCHELLA *C. & P.*

Perithecia small, grouped in irregular or angular clusters, black, hispid with shining black bristles; asci cylindrical; spores uniseriate, uniseptate, with the cells generally unequal, slightly colored, .0004′ long.

Under surface of leaves of *Cassandra calyculata*. Center. November to June.

Fertile specimens were obtained in April. The affected leaves soon fall to the ground.

VENTURIA COMPACTA *n. sp.*

Perithecia small, usually grouped in orbicular compact clusters, black, rough with numerous short black bristles; asci linear; spores uniseriate or crowded, uniseptate, with the cells generally unequal, greenish or olivaceous, .0005′–.0006′ long.

Under surface of leaves of the cranberry, *Vaccinium macrocarpum*. Sandlake. June to September.

Fertile specimens were obtained in September.

NEW STATIONS OF RARE PLANTS, REMARKABLE VARIETIES AND OBSERVATIONS.

CORNUS CANADENSIS *L.*

A form of this plant was found at Greig, in which the peduncle was divided near the summit and supported two or three clusters of flowers. The involucres were rose-colored.

LAPPA OFFICINALIS V. TOMENTOSA *Gr.*

New Baltimore. *Howe.*

VACCINIUM CÆSPITOSUM *Michx.*

This plant and *Carex irrigua* Smith, must be added to the flowering plants found on the open summit of Mt. Marcy.

MYRICA CERIFERA *L.*

Banks of the Hudson, half a mile north of Cold Spring.

ACNIDA CANNABINA *L.*

This sea-coast plant has been found at New Baltimore. *Howe.*

SCIRPUS TORREYI *Olney.*

Shores of Schroon Lake.

The stigmas in any particular flower develop before the anthers of that flower and are withered by the time these are mature, thereby insuring cross fertilization.

CAREX VITILIS *Fr.*

This is the only Carex found on the open summit of Dix's Peak. No grass grows there. This is remarkable, because on all the other high open summits of the Adirondacks that I have visited several species of grasses and Carices occur.

EQUISETUM PALUSTRE V. RAMOSISSIMUM.

Strawberry Island. *Clinton.*

The specimen is much more branched than usual and the branches are themselves furnished with branchlets.

PHEGOPTERIS POLYPODIOIDES V. MULTIFIDUM *Lowe.*

This singluar variety occurs sparingly in the Adirondack Mts.

ASPIDIUM ACULEATUM *Swartz.*

This very rare fern was reported from the Adirondack Mts. many years ago by Dr. *W. F. Macrae*, but, until the present season, had not since been found there. In a recent botanical

tour I detected it in two localities; one in the ravine below Rainbow Falls, near the outlet of Lower Ausable Lake, the other at the base of Bartlett Mt. Probably it occurs in other places east of Mt. Marcy and in the ravines of the Gothics.

WOODSIA GLABELLA *R. Br.*

The form at Lake Avalanche is larger than that at Little Falls and approaches more closely in appearance to *W. Ilvensis.*

BOTRYCHIUM SIMPLEX *Hitch.*

Otisco. *S. N. Cowles.*

ORTHOTRICHUM CANADENSE *Br. & Sch.*

Most of the specimens formerly referred to this species are now considered to be *O. Ohioense* S. & L., ined.

ORTHOTRICHUM LEIOCARPUM *Br. & Sch.*

The specimens formerly referred to this species are a form of *O. speciosum* Nees, with the dry capsule entirely smooth. It may be distinguished from *O. leiocarpum* by its having only eight cilia.

ORTHOTRICHUM PSILOCARPUM *James.*

This is synonymous with *O. pusillum* Mitten, by which it is antedated.

HYPNUM MICROCARPUM V. ANISOCARPUM *Bry. Eur.*

Helderberg Mts. *Austin.* Remarkable for the very long rostrum of the operculum.

PLAGIOTHECIUM PILIFERUM V. BREVIPILUM *Bry. Eur.*

The sterile form somewhat doubtfully thus referred in a former report is found to be *Plagiothecium Mullerianum* Schp. Mr. Austin sends fertile specimens from Sam's Point, Ulster county.

AGARICUS AMERICANUS *Pk.*

This plant sometimes grows in large tufts of twenty or thirty individuals. It is at first nearly white. The annulus is slightly attached to the stem and is sometimes fugacious. The spores are broadly ovate or subglobose, generally nucleate, .00035′ long.

AGARICUS OCHROPURPUREUS *Berk.*

This species is found from June to September. It occurred in Greenbush the past season in great abundance. It often manifests a tendency to grow in circles.

AGARICUS CAMPESTRIS V. VILLATICUS *Brond.*

This large and well marked variety was found as early as June in rich soil near Albany.

LACTARIUS UVIDUS *Fr.*

This plant usually grows in swamps, but fine specimens were found growing on dry soil under pine trees at Center.

RUSSULA MARIÆ *Pk.*

Near Albany. The spores are yellow.

POLYPORUS ELEGANS *Fr.*

Specimens were found in the Adirondack woods with the stem entirely black, and in some instances with a black spot on the pileus opposite the insertion of the stem.

UREDO PYROLÆ *Grev.*

There are three distinct varieties of this species. The first, which is the most common, is without spot, the sori are numerous, equal, rotund and occupy the whole under surface of leaves of *Pyrola rotundifolia;* the second has a brownish spot and the small rotund sori are distantly scattered over the under surface of leaves of *P. secunda;* the third has the sori large, irregular and confluent, long covered by the epidermis and occupying the lower surface of leaves of *P. secunda.* It sometimes succeeds the second variety on the same leaf.

ÆCIDIUM HOUSTONIATUM *Schw.*

Slope of Mt. Marcy on *Houstonia cærulea.*

ÆCIDIUM TENUE *Schw.*

Sandlake in September. It usually occurs in July. In the present instance the plants on which the Æcidium was found had been eaten at the top by cattle. New branches had grown out beneath the injured part and on the leaves of these the parasite occurred. The inference is, that the age of the leaf has some influence in determining the time of the appearance of the parasite.

PILEOLARIA BREVIPES *B. & R.*

The spores are vertically flattened when dry, but under the influence of moisture they soon become globose. The specific name seems quite inappropriate unless it be a comparative one, for the peduncles are several times longer than the spores.

TORULA POPULINA *Pk.*

This is not a good Torula and must be referred to the genus Myxormia.

(5)

SYNOPSIS OF NEW YORK PUCCINIÆ.

PUCCINIA *Pers.*

Uredo spores subglobose, brand spores uniseptate, supported on a distinct peduncle.—Hand-book of British Fungi.

The minute plants included in this genus are known by the common names *brand*, *mildew* and, in one condition, *rust*. They grow upon the leaves and stems of living plants, and consist of obscure filaments imbedded in the tissue of the affected part and of dense tufts or clusters of spores which spring from them. In many species a discolored spot, which is also sometimes distorted or swollen in appearance, marks the position of these spore clusters. They are at first covered by the epidermis of the leaf, but as they advance toward maturity they push this up in the form of little swellings or pustules. Soon the pressure becomes so great that the epidermis bursts, revealing the little, compact, cushion-like cluster of upright spores, nestling within its ruptured walls. These spore clusters or sori, as they are sometimes called, vary in size in different species and even in the same species, but they seldom exceed one line in diameter. In some species found on grasses, they frequently become confluent or greatly elongated in one direction and form long parallel lines between the veinlets of the leaf. In one species they are scattered about irregularly, in another, crowded together in orbicular groups or patches, and in a third they are both scattered and clustered. Sometimes they occur upon both surfaces of the leaves they inhabit, but most often on the lower surface only, and very rarely on the upper surface alone.

The color of the spores, as seen in a mass, is some shade of brown or black, and at a little distance the affected stems and leaves appear to be blackened in spots as if scorched by fire, whence probably the application of the term "brand" to these plants.

A transverse septum or partition at or near the middle of each spore divides it into two parts or cells. In some species the spore is much constricted at this dividing line, causing it to appear as if a band were closely drawn around it. In each cell a small globule or nucleus is sometimes seen, but this is not a constant mark. The young spores are paler in color and often more narrow and pointed than those that are mature. The prevailing forms are elliptical, oblong and clavate. Generally, in those species with elliptical spores, the peduncle is short and hyaline, but in other cases it is various, being short or long, hyaline or colored, according to the species.

Species of Puccinia may be found almost any time from May to October, but the greater number of species appear in late summer and in autumn. Sometimes they persist through the winter, and old stems and leaves may be found in early spring, infested by the Puccinia of the preceding year.

That these parasites are injurious to the plants they attack is manifest, since they diminish their vigor and thus impair both the quantity and quality of the seed. It is this fact that makes "rust" and "mildew;" words of such terrible import to the farmer. He dreads the advent into his grain fields of the pest they indicate, and the fearful injury it is capable of inflicting upon his pecuniary interests.

The condition of these plants known as "rust" or Trichobasis generally precedes the true Puccinia development. In this state the spores are of a reddish-yellow or rust color, subglobose in form and simple. They have no septum, and when fully mature no peduncle. But sometimes the two kinds of spores may be found intermingled in the same sorus.

In the following synopsis an attempt has been made to group the species according to their affinities and to give the characters so fully that the student may satisfactorily identify the species. The color of the spot is given as it appears on the upper surface of the leaf, or on that surface which is opposite the spore clusters. The measurements are of moistened spores and are given in decimals of an inch. They may in some cases be a little too large for dry spores. Figures of the spores have been drawn by the aid of the camera lucida, they being uniformly magnified four hundred diameters. Although the spores in the same species and even in the same cluster vary within certain limits, they doubtless furnish the most reliable characters for the discrimination of the species. In selecting spores for illustration, those were chosen which seemed to represent the prevailing form or forms in each species.

§ 1. *Spores elliptical, obtuse, not at all or but slightly constricted; peduncle very short, hyaline.*

1. P. PULCHELLA *Peck. Currant Brand.*

Spots yellow or greenish-yellow, orbicular, rarely confluent; sori small, circinating, sometimes confluent, blackish-brown; spores .001′–.0013′ long, .0006′ broad.

Upper surface of leaves of *Ribes prostratum.* North Elba, Essex county. July.

This species is as rare as it is beautiful, having been found in no other locality than the one reported. It is remarkable, from the fact that the sori occur only on the upper surface of the leaf. These are usually arranged in two circles, one within the other, and both surrounding a central sorus or cluster of confluent sori. The spots are about one-eighth of an inch in diameter and nearly equal.

2. P. MESOMAJALIS *B. & C. Clintonia Brand.*

Spots orbicular or elliptical, dull yellowish or brown, sometimes with a darker margin; sori minute, surrounded by the ruptured remains of the epidermis, clustered, frequently crowded, cinnamon-

brown; spores somewhat irregular, .001′–.0013′ long, .0006′–.0007 broad.

Leaves of *Clintonia borealis*. Adirondack Mts. July to September.

The sori normally occur on the upper surface of the leaf, but there are usually a few on the lower surface. I have seen no description of this species, and depend upon the authentication of my specimens by Rev. M. A. Curtis for the correctness of their reference.

3. P. VIOLARUM *Lk. Violet Brand.*

Hypogenous; spots yellowish; sori small or minute, clustered or scattered, at first covered by the epidermis, then surrounded by its ruptured remains, brown; spores broadly elliptical, .001′–.0013′ long, .0008′–.0009′ broad.

Leaves of violets. Common. July to September.

A form with the sori minute and scattered over the whole under surface of the leaves occurs on *Viola pubescens*. The Uredo form of this species is *Trichobasis Violarum* Lev.

4. P. MYRRHIS *Schw.*

Amphigenous; spots pallid or yellowish, sometimes none; sori small, scattered or loosely clustered, blackish-brown; spores broadly elliptical, .001′–.0013′ long, .0008′ broad.

Leaves of sweet cicely, *Osmorrhiza brevistylis* and *O. longistylis*.

Our specimens do not agree strictly with the perplexingly brief description of Schweinitz, but they can scarcely be more than a mere variety, differing in the color of the spores and sometimes in the presence of spots on the leaves. The species is very close to the next, differing chiefly in the smaller size of the spores, a difference which extends also to the Uredo form.

5. P. UMBELLIFERARUM *DC.*

Amphigenous; spots none; sori small, scattered, dark-brown; spores somewhat irregular, slightly constricted, sometimes narrowed toward the base, .0013′–.0016′ long, .0008′ broad.

Leaves of *Archangelica atropurpurea*. North Greenbush. July to September.

The dull color of the sori causes the leaf to appear as if mottled with numerous small areas of dead tissue. The spores in our specimens agree exactly with those of European specimens. *Trichobasis Umbellatarum* Lev. is the Uredo form.

6. P. VARIABILIS *Grev. Variable Brand.*

Amphigenous; spots none; sori small, scattered, subrotund, surrounded by the ruptured epidermis, blackish-brown; spores

subelliptical, variable, 001′–.0013′ long, .0008′–.0009′ broad, the cells sometimes subdivided.

Leaves of the dandelion, *Taraxacum Dens-leonis*. New Baltimore. September to November. *Rev. J. L. Zabriskie.*

The remarkable feature of this species is the variable form of the spores; yet in this character even, it approaches some forms of the next species very closely. It attacks especially the leaves of young or seedling plants. The peduncle is sometimes attached to the side of the spore. I have seen no American specimens with the spore cells subdivided.

7. P. COMPOSITARUM *Schl. Composite Brand.*

Amphigenous; spots pallid or none; sori small, subrotund, surrounded by the ruptured epidermis, brown; spores .0013′–.0016′ long, .0008′–.001′ broad.

Leaves and stems of Canada thistle, *Cirsium arvense*. Common. August to October.

Variety *Nabali* has the spores broadly elliptical or subglobose and generally a little smaller. It occurs on leaves of *Nabalus albus*. *Trichobasis Cichoracearum* Lev. is the Uredo form.

§ 2. *Spores aculeate.*

8. P. ACULEATA *Schw. Mandrake Brand.*

Hypogenous; spots large, angular, often confluent, yellow or brown; sori small, loosely clustered, surrounded by the ruptured epidermis, brown or blackish-brown; spores elliptical or oblong, obtuse, scarcely constricted, sometimes slightly tapering toward the base, rough with prominent spine-like teeth, .0016′–.0022′ long, .0008′–.001′ broad; peduncle very short or indistinct, often wanting.

Leaves of mandrake, *Podophyllum peltatum*. Common. June and July.

This is the *P. Podophylli* of Schweinitz Fungi of North Carolina. It sometimes occurs associated with *Æcidium Podophylli* Schw.

§ 3. *Spores irregular, subelliptical or ovate, generally with a small pustule or apiculus at the apex; peduncle short, easily separating.*

9. P. TRIPUSTULATA *Pk. Blackberry Brand.*

Hypogenous; spots small, distinct, angular, yellow; sori very minute, few, loosely clustered, brown; spores triangular, sometimes ovate, not at all or but slightly constricted, mostly tripustulate, .0013′–.0016′ long, .0008′–.0009′ broad.

Leaves of the blackberry, *Rubus villosus*. Greig. September. Not common.

The pustules of the spores are hyaline and more distinct when the spores are moist or fresh. When the peduncle is absent a pustule appears to occupy its former place of attachment, so that usually a pustule is seen on each of the three prominent points of the spore. The apex sometimes has two pustules. The spots are limited by the veinlets of the leaves.

10. P. PECKIANA *Howe. Raspberry Brand.*

Hypogenous; spots mostly indefinite or confluent, yellow, sometimes none; sori very minute, scattered, brown; spores ovate, sometimes triangular, not constricted, often abruptly pointed at the base, .0013′–.0016′ long, .0008′–.0009′ broad.

Leaves of raspberries, *Rubus strigosus* and *R. occidentalis*. New Baltimore. *Howe.* Poughkeepsie. *Gerard.* North Greenbush. August to October.

This species is closely related to the preceding one, although by its different habit it is readily distinguished from it without microscopical examination. The spores often have a hyaline pustule at the apex and when fully mature are seldom found with the peduncle attached.

11. P. NOLITANGERIS *Cd. Balsam Brand.*

Hypogenous; spots brown or none, sometimes concave above, convex below; sori scattered or gregarious, unequal, prominent, reddish-brown; spores scarcely constricted, with a hyaline pustule at the apex, .001′–.0013′ long, .0006′ broad.

Leaves of touch-me-not, *Impatiens fulva*. Cherry Valley. October.

This species seems to be rare with us, having been found, so far as I know, only in the locality here given. Our specimens do not agree strictly with the description, the sori being seldom found on brown spots. I have not seen the Uredo form, but it is said to be *Uredo Impatientis* Rabh. A variety with spores a little larger was found by Dr. Howe at New Baltimore, growing on leaves of *Polygonum dumetorum*.

12. P. CRYPTOTÆNIÆ *Peck. Honewort Brand.*

Hypogenous; spots small, pallid or yellowish, sometimes tinged with purple, dotted by the sori, occasionally confluent; sori minute, clustered, at first covered by the epidermis, then surrounded by its pale ruptured remains which continue in the form of a small pustule with a contracted subcircular opening at the apex, reddish-brown; spores subelliptical, scarcely constricted, crowned with a hyaline pustule .0011′–.0016′ long, .0006′ broad.

Leaves and petioles of honewort, *Cryptotænia Canadensis.* Common. June.

The spores closely resemble those of the preceding species, but in habit and in the character of the sori it is quite distinct. The leaves of the honewort are so thin that the sori form little dot-like elevations on the upper surface.

13. P. MARIÆ-WILSONI *Clinton Spring-Beauty Brand.*

Amphigenous; spots none; sori scattered or clustered, unequal, at first covered by the epidermis, then surrounded by its ruptured remains, reddish-brown; spores subelliptical, scarcely constricted, crowned with a pustule, .0013′–.0018′ long, .0007′–.0008′ broad.

Leaves and stems of the spring beauty, *Claytonia Caroliniana.* Buffalo. *Clinton.* Knowersville. May.

This species is closely related to the two preceding, but differs from both by its habit and larger spores. It is sometimes found associated with *Æcidium Claytoniatum* Schw., growing on the same plant and even on the same leaf.

14. P. TIARELLÆ *B. & C. Mitrewort Brand.*

Spots brown or reddish-brown, sometimes margined with yellow; sori scattered, prominent, reddish-brown; spores subelliptical or oblong, slightly constricted, subacuminate, .001′–.0013′ long, .0005′–.0006′ broad; peduncle one-fourth to one-half the length of the spore.

Leaves of mitrewort, *Tiarella cordifolia.* Sandlake and Watkins. August and September.

The sori are generally on the lower surface of the leaf, but sometimes they occur plentifully on the upper surface. I have seen no description of this species, but have specimens from Dr. Curtis which are labeled with this name and are identical with mine.

§ 4. *Spores echinulate, peduncle various.*

15. P. MENTHÆ *Pers. Mint Brand.*

Hypogenous; spots yellow, brown or purplish, sometimes none; sori unequal, subrotund, scattered or clustered, blackish-brown or black; spores subglobose or vertically flattened, not constricted, .001′ long, .0008′ broad; peduncle hyaline, equal to or exceeding the length of the spore.

Leaves of various mints, *Mentha Canadensis, Monarda fistulosa* and *Hedeoma pulegioides.* Buffalo. *Clinton.* New Baltimore. *Howe.* Greenbush and Watkins. September and October.

The American specimens, var. *Americana*, differ from the European in having the spores distinctly echinulate, and this

peculiarity extends also to the Uredo form, *Trichobasis Labiatarum* Lev. The two forms generally grow together upon the same plant and sometimes in the same sorus. The dry spores are flattened at each end and shorter than when moist.

16. P. ANEMONES *Pers. Anemone Brand.*

Hypogenous; spots none; sori nearly equal, subrotund, prominent, scattered, rarely closely placed and confluent, brown; spores strongly constricted, .0013′–.0016′ long, .0007′–.0008′ broad, the two parts nearly globose and equal; peduncle hyaline, short.

Leaves of the wind flower and meadow rue, *Anemone nemorosa* and *Thalictrum cornuti.* Common May to July.

17. P. PRUNORUM *Lk. Plum-tree Brand.*

Hypogenous; spots yellowish, often tinged with purple, sometimes none; sori subrotund, scattered, dark brown; spores slightly constricted, .0016′–.002′ long, .0008′–.001′ broad; peduncle hyaline, seldom more than half the length of the spore.

Leaves of wild cherry, *Prunus serotina.* Buffalo. *Clinton.* September.

This species seems to be rare. The specimens were found on the leaves of very young trees. The upper spore cell is generally broader than the lower.

§ 5. *Spores oblong or oblong-clavate, peduncle various.*

18. P. GALIORUM *Lk. Bedstraw Brand.*

Hypogenous; spots none or indistinct; sori unequal, scattered, surrounded by the ruptured epidermis, brown or blackish-brown; spores oblong, compact, slightly constricted, .0013′–.0016 long, .0005′ broad; peduncle generally equal to or exceeding half the length of the spore.

Leaves of *Galium triflorum.* Buffalo. *Clinton.* Portville. September. Rare.

I have found this species but once and then on a single plant only. The Uredo form is *Trichobasis Galii* Lev.

19. P. HELIANTHI *Schw. Sunflower Brand.*

Hypogenous; spots none; sori subrotund, prominent, scattered, sometimes closely placed, blackish-brown or black; spores oblong-elliptical, obtuse, slightly constricted, .0016′–.002′ long, .0008′–.001′ broad; peduncle hyaline, equal to or exceeding the length of the spore.

Leaves of various species of Helianthus. Common. September and October.

In his Synopsis of N. A. Fungi, Schweinitz changed the name of this species to *P. Helianthorum.*

20. P. INVESTITA *Schw. Cudweed Brand.*

Hypogenous; spots yellow or none; sori small, subrotund, scattered or clustered, blackish-brown or black; spores oblong, slightly constricted, obtuse or somewhat pointed, .0016′–.002′ long, .0008′ broad; peduncle hyaline, one-half to wholly as long as the spore.

Leaves and stems of various species of Gnaphalium. Fort Edward. *Howe.* West Albany. Autumn. Not common.

The sori are partly concealed by the tomentum of the plants they inhabit. Those on the stems remain through the winter and may be found in spring. This species is sometimes associated with *Æcidium Gnaphaliatum.*

21. P. MINUTULA *Pk. Minute Brand.*

Hypogenous; spots suborbicular, sometimes confluent, yellow, often with a purple or brown center; sori clustered, crowded, minute, blackish-brown or black; spores oblong, slightly constricted, mostly obtusely pointed, .0016′–.0022′ long, .0006′–.0007′ broad; peduncle colored, rarely as long as the spore.

Leaves of the tall goldenrod, *Solidago altissima.* Catskill mountains. July. Rare.

This species is very closely related to the European *P. Virgaureæ* and perhaps ought to be considered an American variety instead of a distinct species. It differs, however, in having the spots more highly colored and usually stained with brown or purple, in the dull, not shining, blackish color of the more crowded sori and in the usually nucleated, longer and more pointed spores. The sori sometimes arrange themselves along the veinlets of the leaves but do not show clearly the "stellate" character of *P. Virgaureæ.*

22. P. XANTHII *Schw. Cocklebur Brand.*

Hypogenous; spots unequal, suborbicular, plane or concave above and convex below, sometimes confluent, yellowish, often with a purple or brown center; sori clustered, small, crowded, sometimes circinating, blackish-brown; spores oblong, slightly constricted, generally obtusely pointed, .0016′–.0022′ long, .0006′–.0007′ broad; peduncle colored, one-half to wholly as long as the spore.

Leaves of cocklebur, *Xanthium strumarium.* Common. September and October.

23. P. ASTERIS *Schw.* *Aster Brand.*

Hypogenous; spots suborbicular, unequal, sometimes confluent, generally concave above and convex below, yellow, often stained with red purple or brown; sori clustered, distinct, crowded or confluent, surrounded by the ruptured epidermis, blackish-brown or black; spores oblong-clavate, constricted, .0015′–.0019′ long, .0006′–.0007′ broad; peduncle slightly colored, one-half to wholly as long as the spore.

Leaves of asters, especially of *Aster macrophyllus.* Common. July to September.

This is a very variable species. Variety *purpurascens* C. & P. has the spots plane, mostly purple and occupied by a few distinct small sori, with the spores a little smaller. It inhabits *Aster acuminatus.* Adirondack Mts.

24. P. GERARDII *Pk.* *Gerard's Brand.*

Spots as in the preceding species; sori clustered, compactly crowded together or confluent, tawny or cinnamon-brown; spores and peduncle as in the preceding, but paler in color.

Leaves of asters and goldenrods, especially of *Aster simplex.*

This species is perhaps too near the preceding, from which it may, however, be distinguished at a glance by the different color of the sori and their densely confluent or matted mode of growth, which frequently causes the whole cluster to appear like one very large sorus. Sometimes the sori occur quite abundantly on the upper surface of the leaf.

25. P. CIRCÆÆ *Pers.*

Hypogenous; spots pallid or brownish; sori clustered, small, often confluent, brown or tawny; spores oblong, generally obtusely pointed, .001′–.0013′ long, .0005′ broad; peduncle mostly thick, about as long as the spore.

Leaves of *Circæa Lutetiana* and *C. alpina.* Common. July to September.

In all our specimens on *C. Lutetiana* the sori have a dense matted appearance, but in all on *C. alpina* they are smaller and distinct, sometimes beautifully circinating and a little darker colored.

26. P. SOLIDA *Schw.* *Compact Brand.*

Hypogenous; spots unequal, brown or purplish, often concave above and convex below; sori clustered or scattered, compact, sometimes densely matted together, blackish-brown or black; spores oblong-clavate, narrow, constricted, .0016′–.0022′ long, .0005′ broad; peduncle very short.

Leaves of *Anemone Pennsylvanica* and *A. Virginiana*. Fort Edward. *Howe*. Greenbush. May. Not common.

This is *P. Anemones-Virginianæ* Schw. in Fungi of North Carolina. The lower cell of the spore gradually tapers toward the base till it is scarcely broader than the peduncle.

27. P. LYCHNIDEARUM *Lk. Lychnis Brand.*

Hypogenous; spots pallid or cream-colored; sori unequal, scattered or clustered, subrotund or oblong, sometimes circinating and confluent, brown; spores oblong, narrow, constricted, obtusely pointed, .0016′–.002′ long, .0005′ broad; peduncle subhyaline, equal to or exceeding the length of the spore.

Leaves of some cultivated Dianthus. New Baltimore. *Howe.*

The spores in this and the three preceding species are pale in color when seen through the microscope.

28. P. PYROLÆ *Cooke. Polygala Brand.*

Hypogenous; spots pallid or cream-colored, sometimes margined with brown or purplish hues; sori numerous, clustered, surrounded by the ruptured epidermis, subcircinating, sometimes crowded, black; spores elliptical or obovate, obtuse, slightly constricted, .0013′–.0016′ long, .0006–.0007′ broad; peduncle subhyaline, generally equal to or exceeding the length of the spore.

Leaves, petioles and stems of the flowering wintergreen, *Polygala paucifolia*. Bergen swamp. *Clinton*. Sandlake and Portville. May to September.

The name of this species is not appropriate. *P. Polygalæ* would be better, as the plant has yet been found on *Polygala paucifolia* only. It is not at all likely that it will ever occur on any species of Pyrola.

29. P. ACUMINATA *Pk. Dwarf-Cornel Brand.*

Hypogenous; spots brown or reddish-brown, sometimes tinged with purple; sori large, clustered or scattered, compact, prominent, often confluent, surrounded by the ruptured epidermis, black; spores oblong, constricted, obtusely pointed or acuminate, .0018′–.0025′ long, .0006′–.0007′ broad; peduncle colored, one-half to wholly as long as the spore.

Leaves of the dwarf cornel, *Cornus Canadensis*. Sandlake and Adirondack Mts. August.

This is a very pretty and distinct species. The clusters of sori are small and often arranged in a circle around a free central space or around a single sorus. The acumination of the spore is variable, being abrupt and short, gradual and long, straight or oblique, central or removed to one side. The spots are sometimes concave

above, convex below. The purplish tint, when present, is more conspicuous on the under surface of the leaf.

30. P. WALDSTEINIÆ *Curt.* *Dry-strawberry Brand.*

Habit, spots and sori as in the preceding species; spores oblong or oblong-clavate, constricted, obtuse, .0016′–.002′ long, .0005′–.0006′ broad; peduncle colored, equal to or exceeding the length of the spore.

Leaves of the dry strawberry, *Waldsteinia fragarioides.* Fort Edward. *Howe.* Portville. September.

In external appearance this species is much like the preceding one, but the spores are smaller and obtuse and the peduncle is longer. I have seen no description of this species and take the name from the labeling of Dr. Howe's specimens.

31. P. POLYGONORUM *Lk.* *Polygonum Brand.*

Spots yellowish, often confluent; sori minute, scattered or clustered, sometimes crowded together in a confused manner, blackish-brown or black; spores obovate or oblong-clavate, generally constricted, obtuse, .0013′–.0018′ long, .0006′ broad; peduncle colored, very short.

Leaves of various species of knotgrass, *Polygonum amphibium*, *P. Pennsylvanicum* and *P. Virginianum.* Buffalo. *Clinton.* New Baltimore. *Howe.* September and October.

The sori sometimes occur abundantly on the upper surface of the leaf. The upper cell of the spore is usually shorter than the lower and is sometimes nearly globose. *Trichobasis Polygonorum* Lev. is the Uredo form.

32. P. CONVOLVULI *B. & C.* *Morning-glory Brand.*

Hypogenous; spots yellow or brownish, sometimes indistinct or none; sori unequal, scattered, for a long time covered by the epidermis, then surrounded by its ruptured remains, black; spores oblong or oblong-clavate, broad, constricted, obtuse, .0018′–.0022′ long, .0008′–.001′ broad; peduncle colored, thick, about half as long as the spore.

Leaves and stems of the wild morning-glory, *Calystegia sepium.* Common. October and November.

The sori frequently occupy the whole under surface of the leaf and before the epidermis is ruptured have a livid hue. I have seen no description of this species, but have specimens from Dr. Curtis, which are labeled with this name and are identical with mine. I cannot distinguish the Uredo form of this species from that of the preceding one.

33. P. obtecta *Peck. Hidden Brand.*

Cauline; sori unequal, often very large, angular or orbicular, scattered or confluent, slightly elevated, long covered by the epidermis, black; spores oblong or oblong-clavate, sometimes curved, constricted, obtuse or obtusely pointed, .0018′–.0024′ long, .0008′ broad; peduncle colored, seldom half as long as the spore.

Stems of the lake rush, *Scirpus validus.* Watkins and Montezuma marshes. September. Also on *Scirpus pungens.* Albany. October.

The green stems of the rush are often mottled by discolored spots, a sterile or imperfect state of this fungus, but I have found fertile specimens on very old dead stems only.

34. P. coronata *Cd. Crowned Brand. Mildew.*

Amphigenous; spots pallid or yellowish; sori narrow, oblong or linear, crowded, long covered by the epidermis, then surrounded by its ruptured remains, black; spores oblong, not constricted, mostly tapering toward the base, truncate at the apex and crowned with a few prominent blunt tooth-like processes, .0016′–.0022′ long, .0006′ broad; peduncle colored, very short.

Leaves of grasses and cereals. Common. August and September.

This species is well marked by the apical crown of teeth.

35. P. linearis *Peck. Linear Grass Brand.*

Amphigenous; sori very narrow, deeply seated, oblong or linear, parallel, crowded, long covered by the epidermis, black; spores oblong, slightly tapering toward the base, not constricted, very obtuse or truncate, .0018′–.0024′ long, .0006′ broad; peduncle colored, very short.

Leaves and sheaths of grasses. Watkins. September.

This is closely related to the preceding species but is without the apical teeth of the spore.

36. P. graminis *Pers. Grass Brand. Corn Mildew.*

Amphigenous; sori oblong or linear, crowded or confluent, often parallel, surrounded by the ruptured epidermis, black; spores obovate oblong or oblong-clavate, slightly constricted, generally obtusely pointed, sometimes obtuse, .0016′–.0024′ long, .0006′ broad; peduncle colored, one-half to wholly as long as the spore.

Leaves and sheaths of grasses and cereals. Very common and variable. Autumn and spring.

Probably this Puccinia is more injurious to the interests of the farmer than any other. Its Uredo form is the *Uredo Rubigo* of

the older authors, *Trichobasis Rubigo-vera* Lev. In this condition it is the "*rust*" of the grain fields.

Variety *brevicarpa* has the sori smaller, the spores obovate or elliptical, generally obtuse, .0011′–.0015′ long, and the peduncle thick. It occurs especially on *Panicum capillare*, and may be *P. emaculata* Schw. I have received it labeled "P. striola," but it certainly runs into the present species. It occurs oftener on the leaves than on the sheaths, but the ordinary form is most abundant on the sheaths, sometimes rendering whole internodes black.

37. P. ARUNDINACEA *Hedw. Reed Brand.*

Amphigenous; sori subrotund or oblong, sometimes confluent, prominent, blackish-brown; spores oblong, obtuse or apiculate, strongly constricted, septate in the middle, .0016′–.0023′ long, .0007′–.0008′ broad; peduncle subhyaline, two to four times as long as the spore.

Leaves of *Phragmites communis*. Montezuma marshes. September.

I have seen no American specimens with apiculate spores. This is *P. Arundinariæ* Schw.

38. P. STRIOLA *Lk. Sedge Brand.*

Hypogenous; spots pallid or none; sori oblong or linear, sometimes crowded, prominent, surrounded or partly covered by the ruptured remains of the epidermis, blackish-brown or black; spores oblong or oblong-clavate, slightly constricted, obtuse, .0016′–.002′ long, .0006′–.0007′ broad; peduncle slightly colored, one-half to wholly as long as the spore.

Leaves of various sedges. Autumn. Not rare.

In all my American specimens the spores are more clavate than in the European and scarcely to be distinguished from those of the next species. The spore figured was taken from authenticated European specimens.

39. P. CARICIS *DC. Carex Brand.*

Hypogenous; sori subrotund, prominent, scattered, sometimes crowded, blackish-brown or black; spores oblong-clavate, slightly constricted, .0013′–.0018′ long, .0006′ broad; peduncle subhyaline, one-half to wholly as long as the spore.

Leaves and sheaths of Carices. Autumn. Common.

This species scarcely differs from the preceding, to which some authors unite it, except in the character of the sori and the slightly smaller spores. It is doubtful if it is more than a mere variety. The upper cell of the spore is subglobose. The Uredo form is *Trichobasis caricina* Lev.

40. P. ANGUSTATA *Peck.*

Hypogenous; spots pallid or none; sori oblong or linear, sometimes regularly arranged at equal intervals in long parallel lines, narrow, surrounded by the ruptured epidermis, black; spores narrow, oblong-clavate or elongated, septate above the middle, strongly constricted, having the lower cell more narrow than the upper and cylindrical or slightly tapering downwards, .0018′–.0024′ long, .0006′ broad; peduncle colored, thick, very short.

Leaves of *Scirpus Eriophorum* and *S. sylvaticum.* West Albany and Watkins. September.

The long narrow spore and very short peduncle, which is seldom more than one-fourth the length of the spore, distinguish this species. The lower cell is sometimes scarcely broader than the peduncle.

It will be seen that eight of the foregoing species inhabit Compositæ; four, Rosaceæ; four, Cyperaceæ; four, Gramineæ; three, Umbelliferæ; two, Ranunculaceæ; and one each, Berberidaceæ, Violaceæ, Caryophyllaceæ, Portulacaceæ, Geraniaceæ, Polygalaceæ, Grossulaceæ, Saxifragaceæ, Onagraceæ, Cornaceæ, Rubiaceæ, Labiatæ, Convolvulaceæ, Polygonaceæ and Liliaceæ. All except two, *P. pulchella* and *P. Prunorum*, inhabit herbaceous plants. The two exceptional species are very rare. The former occurs on a small shrub, and our specimens of the latter were found on young seedling plants but a few inches high.

In closing this report, I desire to express my thanks to those botanists whose names appear in the preceding pages, for their kind and hearty coöperation in the investigation of our flora and for their generous contributions of specimens. A continuance of their aid is earnestly solicited.

When no name is added to the station or stations herein given, the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January 9th*, 1872.

ERRATA.

Page 10, line 5, for three read several.
Page 18, line 16, for *Lamna* read *Lemna*.
Page 61, line 20, for pruinosa read pruinosum.
Page 66, line 4, for Rutamurarie read Rutamuraria.
Page 67, line 4, for Boutelona read Bouteloua.
Page 68, line 17, for glancodea read glaucodea.
Page 77, line 2, for oppressed read appressed.

D

EXPLANATION OF PLATE I.

AGARICUS (TRICHOLOMA) DECOROSUS Peck.

Page 73.

Fig. 1. A young plant.
Fig. 2. A plant of ordinary size.
Fig. 3. Vertical section of a pileus.
Fig. 4. Spores × 400.

AGARICUS (TRICHOLOMA) FALLAX Peck.

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Fig. 5. Two plants of ordinary size.
Fig. 6. Vertical section of a pileus.
Fig. 7. Transverse section of a stem.
Fig. 8. Spores × 400.

CLAVARIA CLAVATA Peck.

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Fig. 9. A lump of earth bearing four plants.

RŒSTELIA AURANTIACA Peck.

Page 91.

Fig. 10. Seven plants on a pome of *Amelanchier Canadensis.*
Fig. 11. Vertical section of a pome showing the imbedded bases of the peridia.
Fig. 12. Two spores × 400.

STREPTOTHRIX ABIETINA Peck.

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Fig. 13. A piece of bark bearing four tufts of plants.
Fig. 14. Spores × 400.
Fig. 15. Flocci × 400.

CLASTERISPORIUM PEDUNCULATUM Peck.

Page 93.

Fig. 16. A piece of wood bearing a patch of plants.
Fig. 17. A young spore and its stem.
Fig. 18. Two mature spores and their stems.

VIBRISSEA LUTEA Peck.

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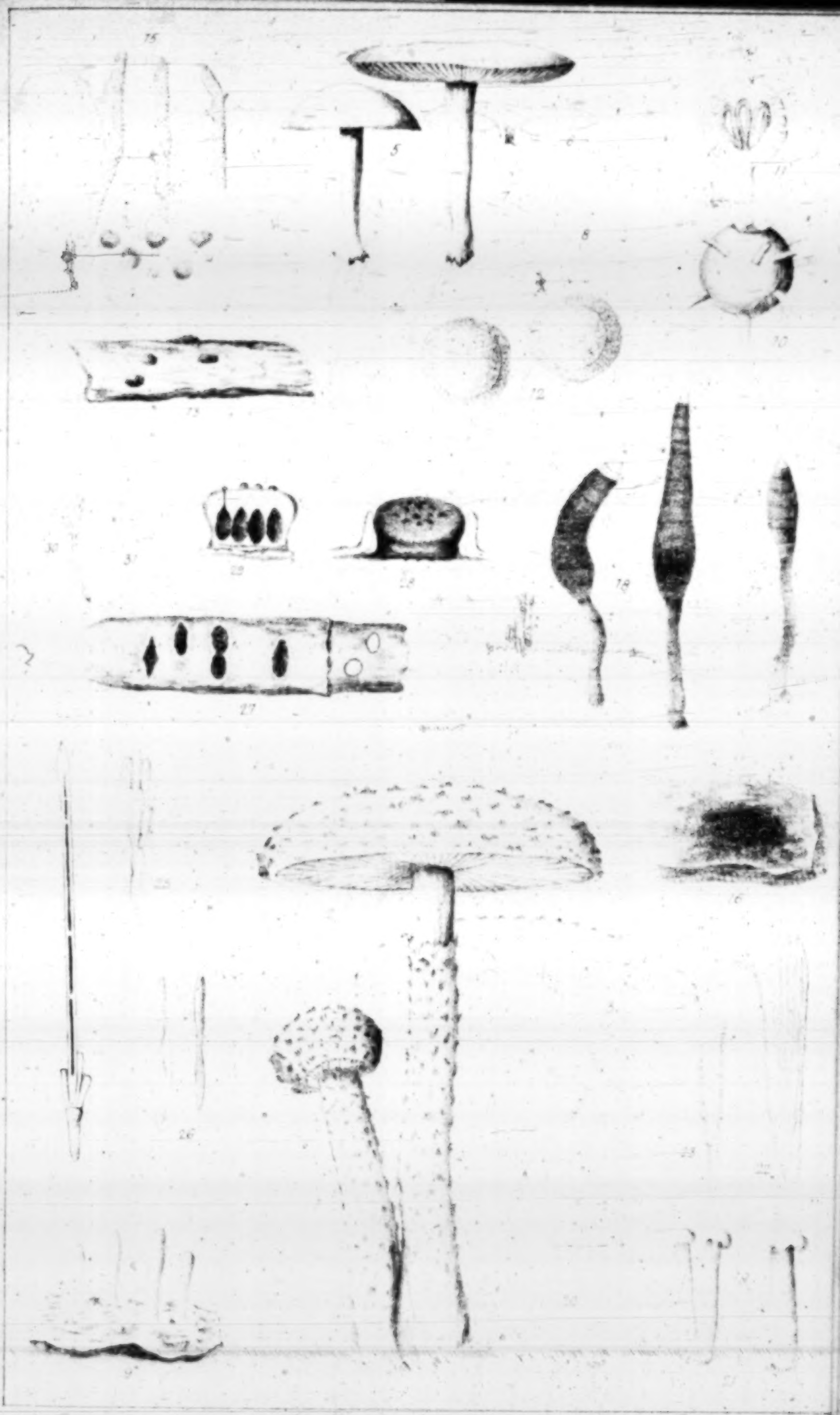
Fig. 19. Three plants, two of them united at the base.
Fig. 20. Vertical section of a plant.
Fig. 21. Transverse section of a stem.
Fig. 22. A paraphysis and an ascus containing spores × 400.
Fig. 23. Two spores × 400.



EXPLANATION OF PLATE I—(Continued).

RHYTISMA LINEARE Peck.

Page 100.

Fig. 24. A pine leaf bearing the Rhytisma along the midvein.
Fig. 25. An ascus containing spores × 400.
Fig. 26. Two spores, one involved in mucus, × 400.

DIATRYPE (DIATRYPELLA) BETULINA Peck.

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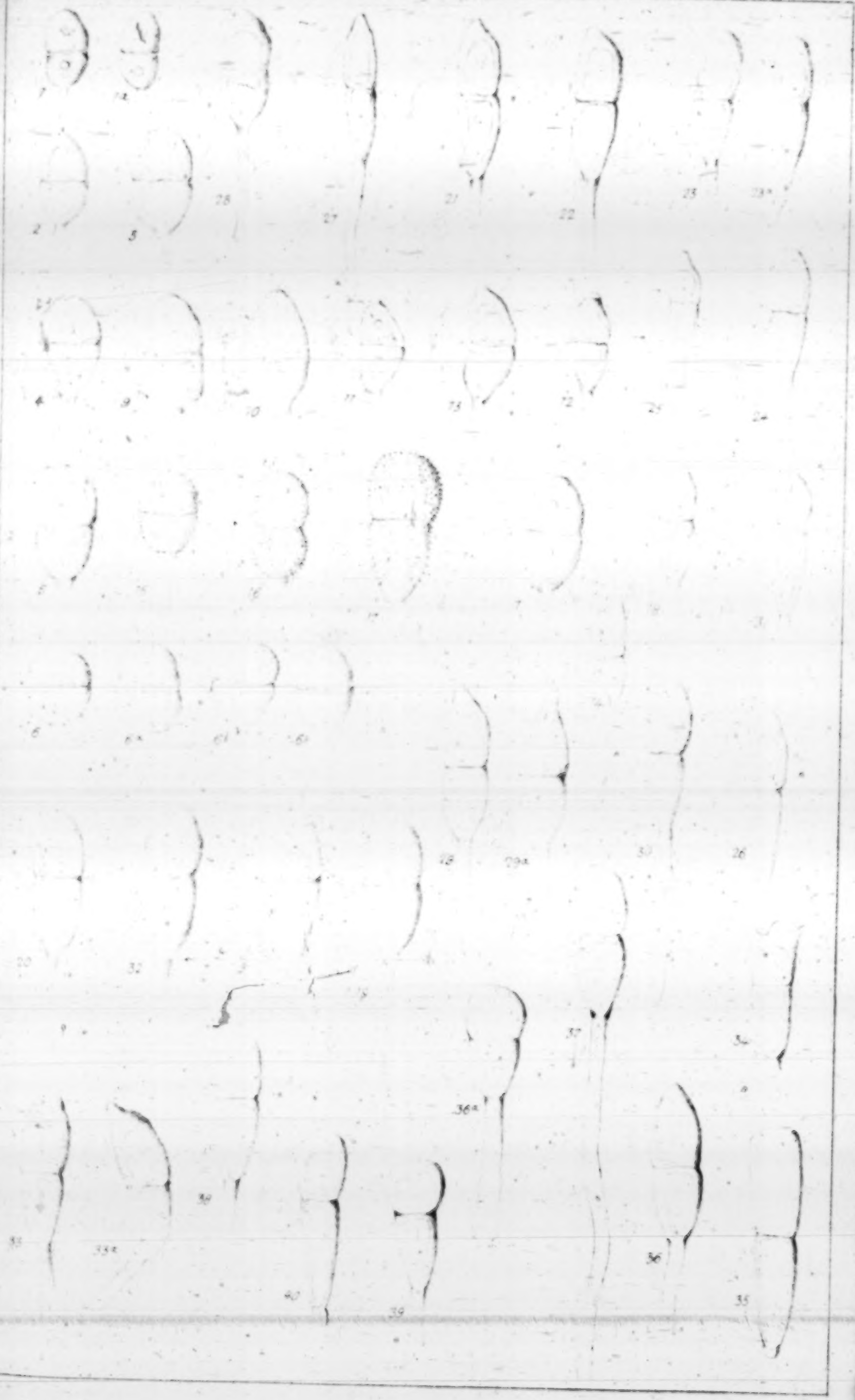
Fig. 27. A piece of a branch bearing the Diatrype, the bark and two stromata having been removed from one end.
Fig. 28. A stroma magnified.
Fig. 29. Vertical section of the same showing four included perithecia.
Fig. 30. An ascus magnified.
Fig. 31. Four spores more highly magnified.

EXPLANATION OF PLATE II.

Illustration of Spores of the Genus Puccinia.

Pages 110-123.

Fig. 1, 1ª Puccinia pulchella *Peck.*
Fig. 2. P. mesomajalis *B. & C.*
Fig. 3. P. Violarum *Lk.*
Fig. 4. P. Myrrhis *Schw.*
Fig. 5. P. Umbelliferarum *DC.*
Fig. 6, 6ª P. variabilis *Grev.*
Fig. 6ᵇ,6ᶜ P. variabilis *Grev.*
Fig. 7. P. Compositarum *Schl.*
Fig. 8. P. aculeata *Schw.*
Fig. 9. P. tripustulata *Pk.*
Fig. 10. P. Peckiana *Howe.*
Fig. 11. P. Nolitangeris *Cd.*
Fig. 12. P. Cryptotæniæ *Peck.*
Fig. 13. P. Mariæ-Wilsoni *Clinton.*
Fig. 14. P. Tiarellæ *B. & C.*
Fig. 15. P. Menthæ *Pers.*
Fig. 16. P. Anemones *Pers.*
Fig. 17. P. Prunorum *Lk.*
Fig. 18. P. Galiorum *Lk.*
Fig. 19. P. Helianthi *Schw.*
Fig. 20. P. investita *Schw.*
Fig. 21. P. minutula *Pk.*
Fig. 22. Puccinia Xanthii *Schw.*
Fig. 23. P. Asteris *Schw.*
Fig. 23ª P. Ast.v.purpurascens *C.&P.*
Fig. 24. P. Gerardii *Pk.*
Fig. 25. P. Circææ *Pers.*
Fig. 26. P. solida *Schw.*
Fig. 27. P. Lychnidearum *Lk.*
Fig. 28. P. Pyrolæ *Cooke.*
Fig. 29. P. acuminata *Peck.*
Fig. 29ª P. acuminata *Peck.*
Fig. 30. P. Waldsteiniæ *Curt.*
Fig. 31. P. Polygonorum *Lk.*
Fig. 32. P. Convolvuli *B. & C.*
Fig. 33,33ª P. obtecta *Peck.*
Fig. 34. P. coronata *Cd.*
Fig. 35. P. linearis *Peck.*
Fig. 36. P. graminis *Pers.*
Fig. 36ª P. gram. v. brevicarpa *Pk.*
Fig. 37. P. arundinacea *Hedw.*
Fig. 38. P. striola *Lk.*
Fig. 39. P. Caricis *DC.*
Fig. 40. P. angustata *Peck.*



IMPERIAL BUREAU OF MYCOLOGY

1872

REPORT OF THE BOTANIST.

1872

S. B. Woolworth, LL. D.,
Secretary of the Board of Regents of the University:

Sir.—Since the date of my last report, specimens of two hundred and eighty-two species of plants have been mounted and placed in the Herbarium of the State Museum of Natural History, of which two hundred and sixty-seven were not before represented therein. A list of the specimens mounted is marked (1).

Specimens have been collected in the counties of Albany, Cayuga, Columbia, Greene, Lewis, Delaware, Onondaga, Otsego, Rensselaer, Ulster, Schoharie and Wayne. These represent two hundred and sixteen species new to the Herbarium and one hundred and four species new to science. The latter are all fungi. A list of the species collected is marked (2). It will be seen that this list is but little less than the corresponding one of the preceding year, while the number of new species detected is even greater. These results, I apprehend, are entirely due to the character of the season just past, it having been one unusually favorable to the production of fungoid plants.

Specimens of forty-eight New York species, new to the Herbarium and not among my collections of the past season, have been contributed or obtained by naming specimens for correspondents. These added to the collected species make the whole number of additions two hundred and sixty-four. A list of the contributors and their contributions is marked (3).

Classified Tabular Statement.

		New to the Herbarium.	New to Science.
Plants collected	Flowering plants	1	.....
	Ferns	1	.....
	Lichens	4	.....
	Fungi.....	210	104
Total.....		216	104
Plants contributed..	Flowering plants	11	.....
	Characeæ.....	2	.....
	Lichens	10	.....
	Fungi.....	25	7
Total.....		48	7
Collected and contribnted.....		264	111

New species with their descriptions, previously unreported species, new stations of rare plants, etc., are given in a section marked (4).

The plan of making colored sketches of the fleshy fungi to accompany the dried specimens has been continued. The number of species and varieties figured is sixty-five.

It has been my purpose to test the edible qualities of the most promising of our wild plants as opportunity might occur, and also to prove by experiment those fungi already reported in books as edible. Having found some thrifty young plants of the giant Solomon's Seal, *Polygonatum giganteum*, it occurred to me that they might be of some value as an article of food. The succulent character of the plant and its botanical relations suggested the mode of preparation for the table. It was the same as that usually employed in the preparation of the asparagus plant. As might have been expected, the flavor of the plant, when cooked, closely resembled that of asparagus. It does not appear to me to be at all inferior to asparagus as an article of food, and it only remains to determine whether it can be cultivated with equal facility and profit before pronouncing this indigenous plant to be of equal value with the introduced asparagus plant.

It is with pleasure that I record the vermilion Hygrophorus, *Hygrophorus miniatus*, as edible. It is a valuable addition to our list of esculent species, as it has not hitherto been classed among

those fit for food. Having made trial of it, I do not hesitate to say that in tenderness of substance and agreeableness of flavor it stands in the first rank. The only thing that detracts from its value is its small size, it being usually scarcely more than one inch in breadth, though under favorable circumstances it sometimes attains a diameter of three ipches. Its bright red color and brittle substance make it a fungus easily recognized. It is abundant in the North woods, the favorite habitat of many of our valuable species.

Among the culinary vegetables held in high esteem among the Chinese, says Dr. Hance, is one called by them *Kau sun*, or "cane shoots," which consists of the white solid base of the stem of a grass, *Hydropyrum latifolium*, closely related to our Indian rice, *Zizania aquatica*. It is said by the writer to be one of the most agreeable and nicest of vegetables, and to possess a peculiar richness and delicacy of flavor. He also suggests an examination of our similar American plant to see if it may not yield a similar valuable product.

My investigations, instituted in accordance with this suggestion, were not rewarded by the desired discovery. The nearest approach to it that was found is a tender white basal part in the young offshoots or suckers of the main stem. This tender portion is palatable, and, like its Chinese relative, bears some resemblance in its flavor to boiled green corn, but the quantity produced is too insignificant to be of any value. The main stems are fibrous and hollow to the base.

Having had occasion to visit the celebrated Montezuma marshes in quest of botanical specimens, I could not view with indifference the enormous growth of luxuriant herbaceous vegetation that covered this extensive area of marsh land. Rushes and sedges, reed-grasses and flags, from six to ten feet high, and that too in dense, wide-spreading patches, could not fail to impress the mind with the belief that the capacity of the soil of these marshes for the production of plants is truly wonderful. Enriched as it has been by the deposition of ages and by the decay of crop after crop of marsh vegetation, its present productions are an indication that there lie stored up here elements of wealth more precious than mines of gold. The simple question is, how can they be made available? If the ordinary method of drainage is not practicable, might not a system of dyking and siphon drainage be adopted with advantage? If no system of drainage can be made profitable, and we must wait for the slow processes of nature to bring about the desired result, may not more that is

valuable be secured from the marsh even in its present condition than is now obtained? It is true, some of the firmer places are used as pasture ground for cattle, some of the finer sorts of sedges and grasses are cut and shipped to the New York market to be used as bedding for horses, and a large supply of flag leaves is annually gathered. But in all these ways an extremely small part of the produce of the marshes is utilized. So very many tons of rank vegetation are annually left to rot on the ground that it seems almost wasteful. I would suggest the propriety of instituting a series of experiments with a view to establish the value of some of the grasses which constitute such a large part of the vegetation of the marsh. Especially promising are the Indian rice, *Zizania aquatica*, and the reed-grass, *Phragmites communis*. These might be found, if cut early, to be equal or even superior in value to corn fodder, and the seeds of the former are almost sure to be a good grain for the fattening of fowls. Having established the value of these grasses, it would seem to be but a trifling matter to increase their quantity to such an extent that they might be harvested with profit.

The unusual destruction of vegetation in some localities last winter, and especially of hardy evergreens, has been a theme of considerable comment. It is not my purpose to discuss the various theories that have been advanced in explanation of the unusual occurrence, but simply to record a few interesting cases that have fallen under my own observation.

In a certain locality, in the town of Sand Lake, there is a group of young pines, some of the trees being red pine, *Pinus resinosa*, and some white pine, *Pinus strobus*. None of the former were affected, but the latter had many of their branchlets winter-killed, thus indicating that the former is a more hardy tree than the latter.

The hilly region in the eastern part of Rensselaer county has for many years furnished the Albany market with a plentiful supply of wild blackberries, *Rubus villosus*, and wild raspberries, *Rubus strigosus*. Last summer the crop of the former was an entire failure, the briers being winter-killed, but of the latter there was an ordinary yield, thus indicating that the raspberry is more hardy than the blackberry.

A young white-pine, standing in an opening between two clumps of trees, in such a position as to receive the full force of the strong north-west winds, had many of its branchlets on this exposed side killed, while those on the opposite side of the tree were comparatively

unharmed. This indication of the destructive agency of the cold winds was not in other cases so clearly shown.

In some instances terminal twigs of hemlocks, *Abies Canadensis*, had their leaves brown and discolored as if winter-killed, but the twigs themselves retained their vitality and in June had commenced to put forth new shoots as if nothing had happened. Grape-vines supposed dead, in some cases sprouted at or near the roots and sent up new shoots which grew with unparalleled vigor.

(1)

SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

NOT NEW TO THE HERBARIUM.

Claytonia Caroliniana *Mx.*
Cornus Canadensis *L.*
Lappa off. *var.* tomentosa *Gray.*
Betula lutea *Mx.*
Acnida cannabina *L.*
Scirpus Torreyi *Olney.*
Equisetum palustre *L.*
Phegopteris poly. *var.* multifida.
Agaricus arvensis *Schæff.*
Clavaria juncea *Fr.*
Puccinia Peckiana *Howe.*
P. Waldsteiniæ *Curt.*
P. Ast. *var.* purpurascens.
Microsphæra penicillata *Lev.*
M. Friesii *var.* castanea *C.-P.*

NEW TO THE HERBARIUM.

Sesuvium pentandrum *Ell.*
Pyrus communis *L.*
Lythrum alatum *Pursh.*
Utricularia striata *Lec.*
U. purpurea *Walt.*
Rumex Patientia *L.*
Arceuthobium pusillum *Pk.*
Spiranthes graminea *Lindl.*
Eleocharis Robbinsii *Oakes.*
Scirpus Clintonii *Gray.*
Rhynchospora macrostachya.
Dicranum palustre *Brid.*
Orthotrichum sordidum *S. & L.*
O. Peckii *S. & L.*
O. pusillum *Mitten.*
Leucodon julaceus *Hedw.*
Hypnum Peckii *Aust.*
Lejeunia hamatifolia *Dumort.*
Parmelia Borreri *Turn.*
P. colpodes *Ach.*
Placodium elegans *Lk.*
Theloschistes candelarius *L.*
Gyalecta Pineti *Fr.*
G. cupularis *Schær.*
Pannaria nigra *Nyl.*
P. tryptophylla *Ach.*
P. crossophylla *Tuck.*
Lecanora rubina *Vill.*
L. Hageni *Ach.*
Biatora russula *Mont.*
B. decolorans *Hoffm.*
Rinodina ascociscana *Tuck.*
Myriangium Curtisii *B. & M.*
Verrucaria rupestris *Schrad.*
Arthonia spectabilis *Flot.*
A. lecideëlla *Nyl.*
Collema pulposum *Ach.*
C. cyrtaspes *Tuck.*
C. pycnocarpum *Nyl.*
Endocarpum arboreum *Schw.*

Agaricus russuloides *Pk.*
A. illinitus *Fr.*
A. decorosus *Pk.*
A. multipunctus *Pk.*
A. rutilans *Schæff.*
A. hordus *Fr.*
A. virescens *Pk.*
A. fallax *Pk.*
A. sinopicus *Fr.*
A. succosus *Pk.*
A. myriadophyllus *Pk.*
A. pelianthinus *Fr.*
A. debilis *Bull.*
A. subcæruleus *Pk.*
A. roseocandidus *Pk.*
A. roridus *Fr.*
A. pterigenus *Fr.*
A. olivarius *Pk.*
A. gracillimus *Weinm.*
A. albocrenulatus *Pk.*
A. Acericola *Pk.*
A. discolor *Pk.*
A. pallidomarginatus *Pk.*
A. putrigena *B. & C.*
A. saccharinophilus *Pk.*
A. hirtosquamulosus *Pk.*
A. squamosus *Fr.*
A. hiascens *Fr.*
A. silvaticus *Schæff.*
Coprinus variegatus *Pk.*
Hygrophorus chlorophanus *Fr.*
Marasmius umbonatus *Pk.*
M. semivelutipes *Pk.*
M. languidus *Fr.*
Lentinus hæmatopus *Berk.*
L. vulpinus *Fr.*
L. tigrinus *Fr.*
Boletus vermiculosus *Pk.*
B. castaneus *Bull.*
B. affinis *Pk.*
B. separans *Pk.*
Boletus modestus *Pk.*
Polyporus picipes *Pk.*
Merulius lacrymans *Fr.*
Hydnum strigosum *Swartz.*
Craterellus cæspitosus *Pk.*
Thelephora pedicellata *Schw.*
Clavaria rufescens *Schæff.*
C. clavata *Pk.*
Tremella albida *Huds.*
T. colorata *Pk.*
Stereum frustulosum *Fr.*
Corynites Ravenelii *Berk.*
Cryptosporium Scirpi *Pk.*
Gelatinosporium abietinum *Pk.*
G. betulinum *Pk.*
Sphæronema cæspitosum *Pk.*
S. truncatum *Fr.*
S. minutissimum *Pk.*
S. pallidum *Pk.*
S. Magnoliæ *Pk.*
Acrospermum compressum *Tode.*
Sphæropsis Platani *Pk.*
S. linearis *Pk.*
S. quercina *Pk.*
S. Pericarpii *Pk.*
S. Malorum *Berk.*
Hendersonia Robiniæ *West.*
H. Sambuci *Pk.*
Diplodia Lignicola *Pk.*
D. petiolaris *Pk.*
D. valsoides *Pk.*
Darluca filum *Cast.*
Septoria salicina *Pk.*
S. ochroleuca *B. & C.*
S. acerina *Pk.*
S. mirabilis *Pk.*
Dinemasporium Graminum *Lev.*
D. Herbarum *Cooke.*
Micropera Drupacearum *Lev.*
Cheirospora botryospora *Fr.*
Stilbospora Staphyleæ *Schw.*

Cytispora fugax *Fr.*
C. chrysosperma *Fr.*
Torula alnea *Pk.*
Sporidesmium moriforme *Pk.*
Rœstelia aurantiaca *Pk.*
Æcidium Convallariæ *Schum.*
Æ. Gerardiæ *Pk.*
Æ. Calthæ *Grev.*
Æ. crassum *Pers.*
Uredo Ledicola *Pk.*
Gymnosporangium Juniperi *Fr.*
G. clavipes *C. & P.*
Urocystis occulta *Preuss.*
U. pusilla *C. & P.*
Cystopus cubicus *Str.*
Puccinia obtecta *Pk.*
P. arundinacea *Hedw.*
P. linearis *Pk.*
P. Polygonorum *Lk.*
P. angustata *Pk.*
P. Lychnidearum *Lk.*
P. variabilis *Grev.*
P. pulchella *Pk.*
P. Myrrhis *Schw.*
P. Prunorum *Lk.*
P. Menthæ *Pers.*
P. Caricis *DC.*
P. Lobeliæ *Gerard.*
Uromyces triquetra *Cooke.*
U. Euphorbiæ *C. & P.*
U. Sparganii *C. & P.*
U. pyriformis *Cooke.*
Protomyces Erythronii *Pk.*
Gymnosporium arundinis *Cd.*
Stilbum tomentosum *Schrad.*
Atractium flammeum *B. & R.*
Fusarium lateritium *Nees.*
F. roseum *Lk.*
Illosporium roseum *Fr.*
Periconia Azaleæ *Pk.*
Streptothrix abietina *Pk.*
Macrosporium Chartarum *Pk.*
Clasterisporium caricinum *Schw.*
C. pedunculatum *Pk.*
Oidium simile *Berk.*
O. monilioides *Fr.*
Cladosporium epiphyllum *Nees.*
Zygodesmus fuscus *Cd.*
Z. olivaceus *B. & C.*
Ascophora Mucedo *Tode.*
Myrothecium Fungicola *Pk.*
Uncinula circinata *C. & P.*
U. Ampelopsidis *Pk.*
U. macrospora *Pk.*
U. Clintonii *Pk.*
U. flexuosa *Pk.*
Microsphæra diffusa *C. & P.*
M. extensa *C. & P.*
M. densissima *Schw.*
M. Hedwigii *Lev.*
M. Dubyi *Lev.*
M. holosericea *Lev.*
M. pulchra *C. & P.*
Sphærotheca Castagnei *Lev.*
S. pruinosa *C. & P.*
Podosphæra biuncinata *C. & P.*
Erysiphe Martii *Lk.*
Eurotium Herbariorum *Lk.*
Onygena equina *Pers.*
Geoglossum simile *Pk.*
G. glutinosum *Pers.*
Vibrissea Truncorum *Fr.*
V. lutea *Pk.*
Peziza vesiculosa *Bull.*
P. lacerata *C. & P.*
P. subochracea *C. & P.*
P. Resinæ *Fr.*
P. nigrella *Pers.*
P. theleboloides *A. & S.*
P. leucoloma *Reb.*
P. badia *Pers.*
P. stercorea *Pers.*

Peziza nivea *Fr.*
P. coronata *Bull.*
P. Kalmiæ *Pk.*
P. Solenia *Pk.*
P. vincta *C. & P.*
Helotium epiphyllum *Fr.*
Bulgaria inquinans *Fr.*
Patellaria indigotica *C. & P.*
Nodularia Acericola *Pk.*
Cenangium seriatim *Fr.*
C. Cephalanthi *Schw.*
Dothidea Kalmiæ *Pk.*
D. crystallophora *B. & C.*
Stictis radiata *Fr.*
Rhytisma lineare *Pk.*
R. Andromedæ *Fr.*
Rhytisma Ilicis-Canadensis *Schw.*
Hysterium commune *Fr.*
H. petiolare *Fr.*
H. tortile *Schw.*
H. ilicinum *De Not.*
Hypocrea gelatinosa *Fr.*
Nectria inaurata *B. & Br.*
Torrubia ophioglossoides *Tul.*
Xylaria filiformis *A. & S.*
X. acuta *Pk.*
Hypoxylon vernicosum *Schw.*
H. atropurpureum *Fr.*
Melanconis elliptica *Pk.*
Diatrype discreta *Schw.*
D. betulina *Pk.*
Diatrype Cercidicola *B. & C.*
Valsa Colliculus *Wormsk.*
V. ambiens *Fr.*
V. stellulata *Fr.*
V. thelebola *Fr.*
V. quaternata *Fr.*
V. truncata *C. & P.*
V. Alni *Pk.*
V. Platani *Schw.*
Sphæria moriformis *Tode.*
S. Coptis *Schw.*
S. Petiolorum *Schw.*
S. Kalmiarum *Schw.*
S. Ramulicola *Pk.*
S. lilacina *Schw.*
S. leucoplaca *B. & R.*
S. bombarda *Batsch.*
S. Vaccinicola *Schw.*
S. Fraxicola *Schw.*
S. salicella *Fr.*
S. rubella *Pers.*
S. eccentrica *C. & P.*
S. hirsuta *Fr.*
S. melanostyla *Fr.*
S. Pezizula *B. & C.*
Sphærella spleniata *C. & P.*
Venturia pulchella *C. & P.*
V. orbicula *C. & P.*
V. compacta *Pk.*
Hydrodictyon utriculatum *Ag.*
Nostoc commune *Vauch.*

(2)

PLANTS COLLECTED NEW TO THE HERBARIUM.

Pycnanthemum pilosum *Nutt.*
Asplenium montanum *Willd.*
Pannaria rubiginosa *Ach.*
Biatora rivulosa *Ach.*
Verrucaria rupestris *Schrad.*
Collema tenax *Sw.*
Agaricus Friesii *Lasch.*
A. fuscosquameus *Pk.*
A. felinus *Pers.*
A. oblitus *Pk.*
A. ponderosus *Pk.*
A. rubicundus *Pk.*
A. æstuans *Fr.*
A. flavescens *Pk.*
A. leucocephalus *Krombh.*
A. laterarius *Pk.*
A. Limonium *Pk.*
A. thujinus *Pk.*
A. fumidellus *Pk.*
A. Hebeloma *Pk.*
A. lacunosus *Pk.*
A. connexus *Pk.*
A. albissimus *Pk.*
A. maculosus *Pk.*
A. Truncicola *Pk.*
A. subzonalis *Pk.*
A. Gerardianus *Pk.*
A. niger *Schw.*
A. conigenus *Pers.*
A. coloreus *Pk.*
A. miratus *Pk.*
A. echinipes *Lasch.*
A. rugosodiscus *Pk.*
A. cyaneus *Pk.*
A. granularis *Pk.*
A. byssisedus *Pers.*
A. fuscofolius *Pk.*
A. foliomarginatus *Pk.*
Agaricus Herbarum *Pk.*
A. nephrodes *B. & C.*
A. fulvotomentosus *Pk.*
A. stellatosporus *Pk.*
A. cerasinus *Pk.*
A. callistus *Pk.*
A. expansus *Pk.*
A. coprinoides *Pk.*
A. bellulus *Pk.*
A. geminellus *Pk.*
A. discomorbidus *Pk.*
A. phyllogenus *Pk.*
A. diminutivus *Pk.*
A. Howeanus *Pk.*
Coprinus insignis *Pk.*
C. angulatus *Pk.*
Cortinarius sphærosporus *Pk.*
C. porphyropus *A. & S.*
C. claricolor *Fr.*
C. longipes *Pk.*
C. lilacinus *Pk.*
C. modestus *Pk.*
C. Clintonianus *Pk.*
C. torvus *Fr.*
C. lignarius *Pk.*
C. nigrellus *Pk.*
C. pulcher *Pk.*
Lepista cinerascens *Bull.*
Paxillus strigosus *Pk.*
P. panuoides *Fr.*
Hygroph orus purus *k.*
H. eburneus *Bull.*
H. Cossus *Fr.*
H. virgatulus *Pk.*
H. borealis *Pk.*
Lactarius regalis *Pk.*
L. Gerardii *Pk.*
Russula consobrina *Fr.*

Russula sordida *Pk.*
Marasmius Viticola *B. & C.*
M. cæspitosus *Pk.*
M. longipes *Pk.*
M. glabellus *Pk.*
M. straminipes *Pk.*
Panus strigosus *B. & C.*
Lenzites vialis *Pk.*
Boletus piperatus *Bull.*
B. pallidus *Frost.*
B. chrysenteron *Fr.*
B. ampliporus *Pk.*
Polyporus griseus *Pk.*
P. cæruleoporus *Pk.*
P. flavidus *Pk.*
P. splendens *Pk.*
P. humilis *Pk.*
P. rhipidius *Berk.*
P. maculatus *Pk.*
P. aurantiacus *Pk.*
P. conchifer *Schw.*
P. ferrúginosus *Fr.*
P. Armeniacus *Berk.*
P. sanguinolentus *Fr.*
P. attenuatus *Pk.*
P. violaceus *Fr.*
Hexagona carbonaria *B. & C.*
Cyclomyces Greenii *Berk.*
Hydnum confluens *Pk.*
H. ferruginosum *Fr.*
Sistotrema confluens *Pers.*
Grandinia coriaria *Pk.*
Thelephora Willeyi *Clinton.*
Stereum tenerrimum *B & R.*
S. radiatum *Pk.*
Corticium bicolor *Pk.*
C. leucothrix *B. & C.*
Clavaria fistulosa *Fr.*
Tremella frondosa *Fr.*
Exobasidium Azaleæ *Pk.*
E. Andromedæ *Pk.*
Lycoperdon separans *Pk.*
L. pedicellatum *Pk.*
Aethalium Ferrincola *Schw.*
Spumaria alba *DC.*
Diderma crustaceum *Pk.*
D. Mariæ-Wilsoni *Clinton.*
D. farinaceum *Pk.*
Didymium connatum *Pk.*
D. furfuraceum *Fr.*
D. farinaceum *Fr.*
Physarum cæspitosum *Pk.*
P. pulcherripes *Pk.*
Angioridium sinuosum *Grev.*
Craterium leucocephalum *Ditm.*
C. obovatum *Pk.*
Stemonitis herbatica *Pk.*
Arcyria nutans *Fr.*
Trichia reniformis *Pk.*
Licea cylindrica *Fr.*
Perichæna flavida *Pk.*
Sphæronema Magnoliæ *Pk.*
Pestalozzia Pezizoides *De Not.*
Bactridium flavum *Kze.*
Uromyces Sparganii *C. & P.*
U. pyriformis *Cooke.*
Æcidium Lycopi *Gerard.*
Æ. Hydrophylli *Pk.*
Stilbum ramosum *Pk.*
Ceratium porioides *A. & S.*
C. hydnoideum *A. & S.*
Myrothecium Fungicola *Pk.*
Helicoma Mulleri *Cd.*
Aspergillus glaucus *Lk.*
A. fuliginosus *Pk.*
Polyactis fascicularis *Cd.*
Oidium fulvum *Lk.*
Fusisporium roseolum *Steph.*
Pilacre faginea *B. & Br.*
Mucor inæqualis *Pk.*
Microsphæra Russellii *Clinton.*
M. densissima *Schw.*

Microsphæra Dubyi *Lev.*
Erysiphe Euphorbiæ *Pk.*
Peziza hesperidea *C. & P.*
P. subochracea *C. & P.*
P. lacerata *C. & P.*
P. vincta *C. & P.*
P. Dehnii *Rabh.*
P. assimilis *C. & P.*
P. pulverulenta *Libert.*
P. crocitincta *B. & C.*
P. violacea *Pers.*
P. unicisa *Pk.*
P. albumina *C. & P.*
P. corrugata *C. & P.*
Helotium rugipes *Pk.*
H. macrosporum *Pk.*
H. thujinum *Pk.*
H. gracile *C. & P.*
H. Limonium *C. & P.*
Elaphomyces granulatus *Fr.*
Hysterium macrosporum *Pk.*
H. sphæroides *A. & S.*
H. exaridum *C. & P.*
H. maculare *Fr.*
H. angustatum *A. & S.*
H. typhinum *Fr.*
Torrubia capitata *Fr.*
Hypocrea alutacea *Fr.*
Hypomyces polyporinus *Pk.*
Nectria Ribis *Tode.*
N. coccinea *Fr.*
N. Celastri *Schw.*
N. balsamea *C. & P.*
N. Apocyni *Pk.*
N. mycetophila *Pk.*
Diatrype platystoma *Schw.*
D. bullata *Fr.*
D. Tocciæana *De Not.*
D. moroides *C. & P.*
Melanconis stilbostoma *Tul.*
Valsa bicincta *C. & P.*
Lophiostoma magnatum *C. & P.*
L. turritum *C. & P.*
Eutypa Acharii *Tul.*
Sphæria canescens *Pers.*
S. staphylina *Pk.*
S. Desmodii *Pk.*
S. viridicoma *C. & P.*
S. mutans *C. & P.*
S. Semen *C. & P.*
S. subconica *C. & P.*
S. fuscella *B. & Br.*
S. maculæformis *Pers.*
S. Sarmentorum *Fr.*
S. racemula *C. & P.*
Massaria bufonia *Tul.*

(3)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss M. L. Wilson, Buffalo, N. Y.

Usnea trichodea *Ach.*
Alectoria Fremontii *Tuck.*
Ramalina tenuis *Tuck.*
Cladonia muscigena *Schær.*
Lecanora Hageni *Ach.*
Gyalecta Pineti *Fr.*
Buellia turgescens *Nyl.*
Strigula Feei *Mont.*

H. Gillman, Detroit, Mich.

Tanacetum Huronense *Nutt.*
Anemone multifida *DC.*
Vaccinium myrtilloides *Hook.*
Aspidium Lonchitis *Sw.*
A. fragrans *Sw.*

S. N. COWLES, Otisco, N. Y.

Chenopodium polyspermum *L.*
Panicum agrostoides *Spreng.*

J. S. MERRIAM, New York City.

Sesuvium pentandrum *Ell.*
Helianthus angustifolius *L.*
Hiracium murorum *L.*
Utricularia purpurea *Walt.*
Æcidium Uvulariæ *Schw.*
Æ. Nesææ *Gerard.*

E. C. HOWE, M. D., Yonkers, N. Y.

Chara Hedwigii *Ag.*
C. hispida *L.*
Delesseria Leprieurii *Mont.*
Puccinia curtipes *Howe.*
Pestalozzia Pezizoides *De Not.*
Uncinula spiralis *B. & C.*

H. W. YOUNG, Aquebogue, L. I.

Helianthus angustifolius *L.*
Utricularia resupinata *Greene.*
Scirpus debilis *Pursh.*
Cyperus Grayii *Torr.*
Hypericum Canadense *L.*
Rhynchospora nitens *Vahl.*
Panicum amarum *Ell.*
Andropogon Virginicus *L.*
Sparganium sim. *v.* androcladum.

E. S. MILLER, Wading River, L. I.

Reseda luteola *L.*
Drosera filiformis *Raf.*
Galactia mollis *Mx.*
Desmodium lævigatum *DC.*
Potentilla recta *Willd.*
Myriophyllum tenellum *Bigel.*
M. amb. *var.* limosum *Gr.*
Oldenlandia glomerata *Mx.*
Aster concolor *L.*
Tilia Am. *var.* pubescens *Gr.*
Hypericum Can. *var.* major *Gr.*
Utricularia minor *L.*
U. resupinata *Greene.*
U. intermedia *Hayne.*
Rhynchospora nitens *Vahl.*
R. macrostachya *Torr.*
Scirpus subterminalis *Torr.*
Eleocharis rostellata *Torr.*
E. melanocarpa *Torr.*
Eragrostis poæoides *Bv.*
Eleusine Indica *Gært.*
Botrychium simplex *Hitch.*

H. WILLEY, New Bedford, Mass.

Cetraria Fendleri *Tuck.*
Sticta fuliginosa *Ach.*
Pannaria Petersii *Tuck.*
P. brunnea *Sw.*
P. rubiginosa *Ach.*
Collema cladodes *Tuck.*
Lichina confinis *Ag.*
Synalissa phylliscina *Tuck.*
S. phæococca *Tuck.*
Biatora ostreata *Hoffm.*
B. rub. *var.* inundata *Fr.*
Agyrium rufum *Pers.*

Buellia Elizæ *Tuck.*
B. alboatra *Schær.*
B. vernicoma *Tuck.*
B. dyalita *Nyl.*
B. myrmecina *Fr.* [*Tuck.*
Lecanactis pr. *var.* chloroconia
Opegrapha demissa *Tuck.*
Arthonia dispersa *Nyl.*
A. tædiosa *Nyl.*
Staurothele circinata *Tuck.*
Sagedia oxyspora *Nyl.*
Verrucaria pinguicula *Mass.*
V. pyrenophora *Ach.*

W. R. GERARD, Poughkeepsie, N. Y.

Nyctalis asterophora *Fr.*
Puccinia Lobeliæ *Gerard.*
Æcidium Nesææ *Gerard.*
Æ. Lysimachiæ *Lk.*
Æ. Clematitis *Schw.*
Uredo Caryophyllaceæ *Johnst.*
Periconia calicioides *Fr.*
Uncinula spiralis *B. & C.*
U. parvula *C. & P.*
Peziza chrysoplithalma *Gd.*
Hypomyces Van Bruntianus *Gd.*
Xylaria Graminicola *Gerard.*
Lophium mytilinum *Fr.*
Sphæria Sarmentorum *Fr.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Torilis anthriscus *Gært.*
Agaricus silvaticus *Schæff.*
Polyporus Gordoniensis *B. & Br.*
Hexagona carbonaria *B. & C.*
Hydnum sulphureum *Schw.*
Thelephora Willeyi *Clinton.*
Diderma Mariæ-Wilsoni *Clinton.*
Phoma brunneotinctum *B. & C.*
Diplodia vulgaris *Lev.*
Excipula Equiseti *Pk.*
Dinemasporium acerinum *Pk.*
Bactridium flavum *Kze.*
Æcidium album *Clinton.*
Perenospora parasitica *Pers.*
Oidium megalosporum *B. & C.*
O. fulvum *Lk.*
Uncinula spiralis *B. & C.*
U. flexuosa *Pk.*
Microsphæra Russellii *Clinton.*
M. Dubyi *Lev.*
Peziza hesperidea *C. & P.*
P. theleboloides *A. & S.*
Colpoma juniperinum *C. & P.*
* Seirosporium Mohrii *Clinton.*
Hypocrea contorta *Schw.*
Xylaria grandis *Pk.*
Valsa centripeta *Fr.*
Massaria bufonia *Tul.*

* *Seirosporium Mohrii* Clinton in litt.

Cups scattered, sessile, slightly concave, margined, black; asci clavate; paraphyses very slender, filiform; spores linear, nearly colorless, closely 25–35 septate, .004–.005 in. long.

Bark of trees. Hawaii Island. Coll. H. Mann.

(4)

PLANTS FOUND GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

POTENTILLA RECTA *Willd.*

Ridge near Wading River, Long Island. *E. S. Miller.*

TORILIS ANTHRISCUS *Gært.*

Buffalo. *G. W. Clinton.* Introduced.

HELIANTHUS ANGUSTIFOLIUS *L.*

Salt marsh, Peconic river. *H. W. Young.* New Lots, Long Island. *J. S. Merriam.*

UTRICULARIA RESUPINATA *Greene.*

Ponds, Wading River. *Miller, Young.*

PYCNANTHEMUM PILOSUM *Nutt.*

Near Savannah, Wayne county.

CHENOPODIUM POLYSPERMUM *L.*

Brewerton, Onondaga county. *S. N. Cowles.*

RUMEX ENGELMANNI *Ledeb.*

Mouth of Peconic river, L. I. *Young.*

RHYNCHOSPORA NITENS *Vahl.*

Wading River. *Miller, Young.*

PANICUM AMARUM *Ell.*

Indian island at the mouth of Peconic river. *Young.*

Long Island seems to be the northern limit of several plants having a southern range.

ASPLENIUM MONTANUM *Willd.*

Rocky precipices. New Paltz, Ulster county.

This is probably its most northern station, and at present its only known locality in the State. The credit of its discovery here belongs, I believe, to *Mr. H. Denslow.*

CHARA HISPIDA *L.*

New Baltimore, Greene county. *E. C. Howe.* A single specimen.

CHARA HEDWIGII *Ag.*

New Baltimore. *Howe.*

Pannaria Petersii *Tuck.*

Rocks. Trenton Falls and Glen's Falls. *H. Willey.*

Pannaria rubiginosa *Ach.*

Trunks of trees. Shandaken, Ulster county.

Collema tenax *Sow.*

Rocks. Helderberg mountains.

Collema cladodes *Tuck.*

Rocks. Trenton Falls. *Willey.*

Lecanora Hageni *Ach.*

Rocks. Niagara Falls. *Miss M. L. Wilson.*

Gyalecta Pineti *Schrad.*

Mossy ground. Arcade. *Miss Wilson.* Shawangunk mountains. *C. F. Austin.*

Biatora rivulosa *Ach.*

Rocks and stones. Worcester, Otsego county. The specimens are sterile.

Buellia turgescens *Nyl.*

Old wood, Buffalo. *Miss Wilson.*

Lecanactis premnea var. chloroconia *Tuck.*

Bark of hemlock trees. Ithaca. *Willey.*

Staurothele circinata *Tuck.*

Rocks. Trenton Falls. *Willey.*

Verrucaria pinguicula *Mass.*

Rocks. Trenton Falls. *Willey.*

Verrucaria pyrenophora *Ach.*

Rocks. Trenton Falls. *Willey.*

Verrucaria rupestris *Schrad.*

Rocks. Watkins' Glen, Schuyler county.

Agaricus Friesii *Lasch.*

Woods. Fort Edward. *Howe.* Worcester, Otsego county, and Memphis, Onondaga county.

Our specimens do not agree strictly with the description of the species. The stem is not scaly and the odor is scarcely perceptible

unless the plant be cut or wounded or until it is dried. The outer or lower surface of the annulus is scaly.

AGARICUS (LEPIOTA) FUSCOSQUAMEUS *Peck.**

Pileus hemispherical or convex, rough, with numerous erect pointed blackish-brown scales; lamellæ close, white, free; stem equal, thickened at the base, hollow or stuffed with a cottony pith, floccose, brown; spores .0003 × .00014 of an inch.

Plant 2–3 inches high, pileus 1.5–2 inches broad, stem 3 lines thick.

Ground in woods. Croghan, Lewis county. September.

AGARICUS FELINUS *Pers.*

Ground in woods. Croghan and North Elba. August and September.

Fries, in his Epicrisis, unites this species with *Ag. clypeolarius*, and indeed in our specimens there is no external mark whereby the one may be separated from the other except the darker color of the scales in *Ag. felinus*. But this difference is so strongly supported by the much smaller spores (.00028 × .00016 in.) that I am constrained to follow Persoon in considering this plant distinct from *Ag. clypeolarius*. *Ag. fuscosquameus* may be separated from it by its stouter habit, bulbous stem and more narrow spores.

AGARICUS (LEPIOTA) OBLITUS *Peck.*

Pileus fleshy, convex or expanded, subumbonate, smooth or obscurely squamose from the breaking up of the veil, viscid, alutaceous, inclining to tawny, the umbo generally darker; lamellæ crowded, free, whitish or yellowish, some of them forked; stem equal or slightly tapering upward, smooth at the top, floccose, viscid, hollow or containing a cottony pith; annulus obsolete; spores .00016 × .00012 in.

Plant 2′–3′ high, pileus 2′–3′ broad, stem 3″ thick.

Ground in frondose woods. Lowville, Lewis county. September.

AGARICUS (ARMILLARIA) PONDEROSUS *Peck.*

Pileus thick, compact, convex or subcampanulate, smooth, white or yellowish, the naked margin strongly involute beneath the slightly viscid persistent veil; lamellæ crowded, narrow, slightly emarginate, white inclining to cream color; stem stout, subequal, firm, solid, coated by the veil, colored like the pileus, white and furfuraceous above the annulus; flesh white; spores nearly globose, .00016 in. in diameter.

* The species to which the author's name is appended have been published in the *Bulletin of the Buffalo Society of Natural Sciences*, vol. I, pp. 41–72.

Plant 4′–6′ high, pileus 4′–6′ broad, stem about 1′ thick.

Ground in woods. Copake, Columbia county. October.

The veil for a long time conceals the lamellæ and finally becomes lacerated and adheres in shreds or fragments to the stem and margin of the pileus.

AGARICUS (TRICHOLOMA) RUBICUNDUS *Peck.*

Pileus convex, then expanded or centrally depressed, viscid, slightly tomentose on the margin when young, smooth or sometimes with a few scales either on the disk or on the margin, red; lamellæ close, white becoming spotted with red, some of them forked; stem firm, equal, solid, slightly pruinose, white often stained with red; spores .00028 × .00016 in.

Plant 3′–5′ high, pileus 3′–5′ broad, stem 6″–8″ thick.

Ground in woods. New Scotland, Albany county. October.

The plant is rarely cæspitose. The thin cuticle is separable. The color is suggestive of species of Russula.

AGARICUS (TRICHOLOMA) FLAVESCENS *Peck.*

Pileus firm, convex, often irregular, dry, smooth, sometimes cracking into minute scales on the disk, white or pale yellow, minutely tomentose on the margin when young; lamellæ close, floccose on the edge, white or pale yellow; stem firm, solid, often unequal, central or eccentric, colored like the pileus; spores subglobose, .0002 in. in diameter.

Plant cæspitose, 2′–3′ high, pileus 2′–3′ broad, stem 4″–6″ thick.

Old pine stumps. Bethlehem and North Greenbush. October.

AGARICUS (TRICHOLOMA) LACUNOSUS *Peck.*

Pileus convex or expanded, dry, lacunose, densely furfuraceous, bright golden-yellow; lamellæ subdistant, white, the interspaces sometimes veiny; stem firm, solid, equal or slightly tapering downwards, scaly or furfuraceous, colored like the pileus.

Plant 1′–2′ high, pileus 1′ broad, stem 1″ thick.

Fallen branches and decaying wood. Savannah. August.

The colors are well retained in the dried specimens. The lacunæ of the pileus give it a somewhat reticulated appearance.

AGARICUS (TRICHOLOMA) LATERARIUS *Peck.*

Pileus convex or expanded, sometimes slightly depressed in the center, pruinose, whitish, the disk often tinged with red or brown, the thin margin marked with slight subdistant, short, radiating ridges; lamellæ narrow, crowded, white, prolonged in little decur-

rent lines on the stem; stem nearly equal, solid, white; spores globose, .00018 in. in diameter.

Plant 3′–4′ high, pileus 2′–4′ broad, stem 3″–5″ thick.

Ground in woods. Worcester. July.

The ornamentation of the margin of the pileus is a convenient mark of specific distinction.

AGARICUS (TRICHOLOMA) LIMONIUM *Peck.*

Pileus thin, broadly convex or expanded, smooth, yellowish; lamellæ crowded, narrow, not forming decurrent lines on the stem, lemon yellow; stem tapering downwards, smooth, striate, radicating.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–4″ thick.

Ground in woods. Worcester and Croghan. July and September.

The lemon yellow color, especially distinct in the lamellæ, and the tapering root-like prolongation of the stem characterize this species.

AGARICUS LEUCOCEPHALUS *Krombh.*

Ground in woods. Croghan. September.

This plant is sometimes cæspitose. Its stem is narrowed at the base into a tapering root-like prolongation.

AGARICUS (TRICHOLOMA) FUMIDELLUS *Peck.*

Pileus convex, then expanded, subumbonate, smooth, moist, dingy white or clay-color clouded with brown; lamellæ close, subventricose, whitish; stem equal, smooth, solid, whitish; spores .00018 × .00015 in.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Ground in woods. New Scotland. October.

The disk is generally darker than the margin. The pileus becomes paler in drying. The stem splits easily.

AGARICUS (TRICHOLOMA) THUJINUS *Peck.*

Pileus convex or centrally depressed, smooth, hygrophanous, pale alutaceous, the margin generally irregular, wavy or lobed; lamellæ crowded, thin, abruptly emarginate, alutaceous; stem slightly thickened at the top, smooth, hollow, concolorous, whitish-villous at the base.

Plant 2′ high, pileus 2′ broad, stem 2″–3″ thick.

Swampy ground, under arbor-vitæ, *Thuja occidentalis.* Memphis. August.

Agaricus (Tricholoma) Hebeloma *Peck.*

Pileus broadly conical or subcampanulate, obtuse, thin, hygrophanous, striatulate and brown, with a darker disk when moist, grayish when dry; lamellæ broad, rounded behind and deeply emarginate, yellowish; stem equal, hollow, smooth, pallid; spores .00028 × .00016 in.

Plant 1′ high, pileus 6″ broad, stem scarcely 1″ thick.

Ground in woods. Worcester. July.

This plant so closely resembles some species of the subgenus Hebeloma in general appearance, that, in the absence of the spores, it might easily be mistaken for a species of that subgenus.

Agaricus (Clitocybe) connexus *Peck.*

Pileus thin, convex or expanded, subumbonate, clothed with a minute appressed silkiness, white, the margin sometimes faintly tinged with blue; lamellæ crowded, narrow, white inclining to yellowish; stem equal or tapering downwards, solid, whitish.

Plant 2′–3′ high, pileus 2′–3′ broad, stem 2″ thick.

Ground in woods. Croghan. September.

The lamellæ sometimes terminate rather abruptly and are not strongly decurrent, hence it might easily be mistaken for a Tricholoma. The margin of the pileus is sometimes marked with slight ridges as in *Ag. laterarius.* The odor is weak but aromatic and agreeable.

Agaricus (Clitocybe) albissimus *Peck.*

Pileus convex or expanded, dry, smooth, soft, pure white; lamellæ close, short-decurrent, white, some of them forked at the base; stem equal, smooth, solid, white.

Plant growing in rings, 2′–3′ high, pileus 2′–3′ broad, stem 2″–3″ thick.

Ground in woods. Croghan. September.

The pure white color and soft texture is retained in the dried specimens.

Agaricus (Clitocybe) maculosus *Peck.*

Pileus convex, centrally depressed, smooth, marked with numerous watery spots when moist, yellowish-white, with slight short radiating ridges on the margin; lamellæ crowded, narrow, long-decurrent, pallid or yellowish, some of them forked; stem slightly thickened at the base, smooth, stuffed or hollow, colored like the pileus.

Plant 2′–3′ high, pileus 1.5′–2′ broad, stem 2″–3″ thick.

Ground in woods. Croghan. September.

The watery spots of the pileus resemble those of *Ag. marmoreus*. They often disappear as the plant becomes dry.

AGARICUS (CLITOCYBE) TRUNCICOLA *Peck.*

Pileus thin, firm, expanded or slightly depressed in the center, smooth, dry, white; lamellæ narrow, thin, crowded, adnate-decurrent; stem equal, stuffed, smooth, often eccentric and curved, whitish.

Plant 1′ high, pileus 1′ broad, stem 1″ thick.

Trunks of frondose trees, especially maples. Croghan. September.

AGARICUS (CLITOCYBE) SUBZONALIS *Peck.*

Pileus thin, centrally depressed or subinfundibuliform, marked with two or three obscure zones, with a slight appressed silkiness, pale yellow; lamellæ close, narrow, equally decurrent, some of them forked, pallid or yellowish; stem equal, slightly fibrillose, stuffed, pale yellow.

Plant 2′ high, pileus 2′-3′ broad, stem 2′-4′ thick.

Ground in woods. Croghan. September.

AGARICUS (CLITOCYBE) GERARDIANUS *Peck.*

Pileus thin, funnel-form, hygrophanous, striatulate when moist, brown, rough with scattered blackish points; lamellæ decurrent, close, a little paler than the pileus, some of them forked; stem rather long, flexuous, smooth, stuffed, concolorous, white at the base.

Plant 2′-3′ high, pileus 8″-12″ broad, stem .5″-1″ thick.

Sphagnous marshes. Sandlake, Rensselaer county. New Paltz. June.

This is related to *Ag. ectypoides*, but it is much more slender and fragile, with a different habitat and without the fibrous radiating lines on the pileus of that species.

AGARICUS NIGER *Schw.*

Decaying wood. Helderberg mountains.

AGARICUS CONIGENUS *Pers.*

Fallen pine cones. Croghan and New Scotland. September.

AGARICUS (COLLYBIA) COLOREUS *Peck.*

Pileus convex, subumbilicate, slightly fibrillose, hygrophanous, yellow, sometimes tinged with red, the margin exceeding the

lamellæ; lamellæ moderately close, emarginate, yellow; stem equal, smooth, hollow, sometimes eccentric, yellow.

Plant 1′-2′ high, pileus 8″-12″ broad, stem 1″ thick.

Decaying wood. Croghan. September.

Agaricus (Mycena) miratus *Peck.*

Pileus thin, campanulate, umbilicate, smooth, striate, cinereous; lamellæ close, narrow, slightly uncinate, whitish; stem long, filiform, smooth, whitish, radicating, villous at the base.

Plant about 2′ high, pileus 3″-4″ broad and high.

Among fallen leaves. Center, Albany county. October.

This species may be known by the umbilicate pileus and its long striæ which extend to the umbilicus.

Agaricus echinipes *Lasch.*

Fallen leaves. Center. Oct.

Agaricus (Omphalia) rugosodiscus *Peck.*

Pileus thin, convex, then expanded, smooth, hygrophanous, striatulate when moist, brown, rugulose-wrinkled on the disk, the thin margin often wavy; lamellæ narrow, close, arcuate, decurrent, white; stem equal, short, smooth, hollow, often curved, whitish.

Plant 1′-1.5′ high, pileus 6″-12″ broad, stem .5″ thick.

Rotten trunks in woods. Worcester and Croghan. July and September.

The pileus varies from umbilicate to slightly umbonate. The odor and taste of radishes is sometimes perceptible.

Agaricus (Entoloma) cyaneus *Peck.*

Pileus convex, dry, minutely scaly, brown or brownish-violaceous; lamellæ whitish, then tinged with flesh-color; stem equal or slightly thickened at the base, hollow, scaly and violaceous toward the top; spores angular, .00033 × .00025 in.

Plant 2′ high, pileus 1′- 1.5′ broad, stem 1″ thick.

Decaying wood and old mossy logs in woods. Pine Hill and Worcester. June and July.

It is probable that the violaceous hue becomes obsolete with age.

Agaricus (Pluteus) granularis *Peck.*

Pileus convex, then expanded, subumbonate, rugose-wrinkled, sprinkled with minute blackish granules, varying in color from yellow to brown; lamellæ rather broad, close, ventricose, free, whitish, then flesh-colored; stem equal, solid, pallid or brown,

usually paler at the top, velvety with a short close plush; spores subglobose, about .0002 in. in diameter.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 1″–2″ thick.

Old logs in woods. Pine Hill and Worcester.

The granules form a sort of plush which is more dense on the disk of the pileus and its wrinkles than on the margin. The species is related to *Ag. nanus*, but is larger and has a different stem.

AGARICUS BYSSISEDUS *Pers.*

Rotten wood. Sterling, Cayuga county. August.

AGARICUS (LEPTONIA) FOLIOMARGINATUS *Peck.*

Pileus convex, umbilicate, scabrous on the disk, bluish-brown, the disk a little darker; lamellæ broad, subdistant, plane, whitish, then flesh-colored, the edge entire and colored like the pileus; stem smooth, equal, solid below, with a small cavity above, concolorous.

Plant 1′–2′ high, pileus 6″–10″ broad, stem .5″ thick.

Ground and decaying wood in groves. Maryland, Otsego county. July.

It is related to *Ag. serrulatus.*

AGARICUS (NOLANEA) FUSCOFOLIUS *Peck.*

Pileus thin, conical or campanulate, papillate, smooth, hygrophanous, dark-brown and striatulate when moist, grayish-brown and shining when dry; lamellæ ascending, rather close, narrowed toward each end, brown; stem equal, stuffed, smooth, concolorous, with a white mycelium at the base; spores irregular, nucleate, .00033 × .00025 in.

Plant 1′ high, pileus 3″–6″ broad, stem .5″ thick.

In woods on old logs. Maryland. July.

AGARICUS (CREPIDOTUS) HERBARUM *n. sp.*

Pileus thin, at first resupinate, with the margin incurved, clothed with white down, at length somewhat reflexed, less downy, the thin margin spreading; lamellæ narrow, not crowded, diverging from a naked lateral or eccentric point, white, then tawny; spores slightly curved, .00028 × .00014 in.

Pileus 2″–4″ broad.

Dead stems of herbs. North Greenbush. October.

The pileus is attached by white, webby filaments.

Agaricus nephrodes *B. & C.*

Decaying wood. Worcester. July.

Our specimens are mostly spathulate, resembling in shape *Ag. petaloides.*

Agaricus (Crepidotus) fulvotomentosus *n. sp.*

Pileus dimidiate or reniform, sessile, clothed with numerous small tomentose tawny scales; lamellæ close, free, the edge white; spores elliptical, .0003 × .0002 in.

Pileus about 1′ in diameter.

Decaying wood. Savannah. August.

Agaricus (Pholiota) cerasinus *Peck.*

Pileus broadly convex, smooth, hygrophanous, watery-cinnamon when moist, yellow when dry; lamellæ close, emarginate, yellow, then cinnamon color; stem solid, equal, often curved, furfuraceous at the top; annulus slight, fugacious; flesh yellow; spores elliptical, rough, .0003 × .0002 in.

Plant cæspitose, 2′–4′ high, pileus 2′–4′ broad, stem 2″–4″ thick.

Old prostrate trunks of trees in woods. Sterling. August.

When fresh it has a strong amygdaline odor.

Agaricus (Hebeloma) stellatosporus *Peck.*

Pileus convex, dry, rough, with numerous squarrose or erect scales, brown; lamellæ pallid, becoming brown; stem equal, scaly, concolorous; spores subglobose, rough with little nodules, .0003 in. in diameter.

Plant 2′ high, pileus 1′ broad, stem 1″ thick.

Ground in woods. Croghan. September.

This plant bears a close resemblance to *Ag. mutatus*, but the persistent scales and rough spores distinguish it.

Agaricus (Hebeloma) griseoscabrosus *Peck.*

Pileus hemispherical or convex, dry, rough with appressed fibres and scales, cinereous, the margin whitish when young; lamellæ close, broad, whitish when young, then ochraceous-brown; stem firm, equal or slightly tapering downward, solid, fibrillose or slightly scaly, subconcolorous; spores smooth, .00035 × .0002 in.

Plant gregarious, 1.5′–2′ high, pileus 6″–10″ broad, stem 1″–1.5″ thick.

Ground in woods. Bethlehem. October.

AGARICUS (NAUCORIA) BELLULUS *Peck.*

Pileus thin, moist, convex, smooth, bright watery-cinnamon; lamellæ crowded, narrow, emarginate, yellow, becoming darker with age; stem equal, hollow, generally curved, smooth, reddish-brown; spores .0002 × .00014 in.

Plant 1′ high, pileus 6″–12″ broad.

Decaying hemlock trunks in woods. Lowville and Sandlake. September.

It is sometimes cæspitose. It is rare to find a specimen in which the lamellæ do not have a stained or spotted appearance as if bitten by some small insect.

AGARICUS (NAUCORIA) GEMINELLUS *Peck.*

Pileus convex, even, dry, firm, yellowish-red, the margin paler; lamellæ crowded, emarginate, pale yellow; stem equal, smooth, containing a white pith or a small cavity, colored like the pileus; flesh white; spores .00033 × .0002 in.

Rotten wood. Croghan. September.

This plant is closely related to the preceding one, being of the same size and habit, but differing in color and in the size of the spores. As in that species the lamellæ are spotted as if bitten by insects.

AGARICUS (NAUCORIA) DISCOMORBIDUS *Peck.*

Pileus thin, convex or expanded, smooth, slightly viscid, reddish-brown or dull chestnut color; lamellæ narrow, crowded, minutely serrulate, white or pallid, then brownish; stem equal, stuffed, smooth, slightly mealy at the top, white; flesh white; spores nucleate, .0004 × .00025 in.

Plant 2′–3′ high, pileus 1′–1.5′ broad, stem 1″–2″ thick.

Ground in woods. Croghan and Copake. September and October.

In the dried specimens the disk has a dark discolored appearance as if beginning to decay, whence the specific name.

AGARICUS (GALERA) EXPANSUS *Peck.*

Pileus submembranaceous, expanded or centrally depressed, viscid, plicate-striate on the margin, brownish-ochre, sometimes tinged with yellow and pink hues; lamellæ close, attached, ferruginous; stem long, equal, hollow, slightly pruinose, faintly striate, yellow; spores .00045 × .00028 in.

Plant 3′–4′ high, pileus 1 broad, stem 1″ thick.

Decaying wood. Sandlake and Memphis. August.

Agaricus (Galera) callistus *Peck.*

Pileus thin, expanded, subumbonate, smooth, viscid, striatulate on the margin, olivaceous or ochraceous, the umbo bright chestnut color; lamellæ thin, close, ventricose, attached to but easily separating from the stem, yellowish, becoming bright ferruginous; stem equal, hollow, pruinose, yellow; spores .00035 × .0002 in.

Plant 1′–1.5′ high, pileus 6″–10″ broad, stem .5″ thick.

Exsiccated water holes in swampy woods. Croghan. September.

This is one of the prettiest Agarics known to me. In the dried specimens the lamellæ are white on the edge and the pileus has assumed a dull metallic green color.

Agaricus (Galera) coprinoides *Peck.*

Pileus membranaceous, soon expanded, often split on the margin, plicate-sulcate to the small even disk, yellowish, inclining to ochre; lamellæ close, slightly rounded behind, concolorous; stem equal, hollow, minutely hairy-pruinose, white; spores .00028 × .0002 in.

Plant 1′ high, pileus 6″ broad, stem .5″ thick.

Grassy ground. Sterling. August.

The structure of the pileus is like that of some of the smaller Coprini.

Agaricus silvaticus *Schæff.*

Buffalo. *Clinton.* I have seen dried specimens only, but they appear to belong to this species.

Agaricus (Psalliota) diminutivus *Peck.*

Pileus expanded or centrally depressed, sometimes with a slight umbo, dry, alutaceous, the disk rosy-brown and spotted with small appressed silky scales; lamellæ close, thin, free, ventricose, brownish-pink, becoming black; stem equal or slightly tapering upward, stuffed with a whitish pith or hollow, smooth, pallid; annulus thin, persistent, white; spores .0002 × .00015 in.

Plant 1.5′–2′ high, pileus 1′–1.5′ broad, stem 1″–2″ thick.

Ground in woods. Croghan. September.

Sometimes the whole pileus is colored reddish-brown. The flesh is quite brittle.

Agaricus (Stropharia) Howeanus *Peck.*

Pileus convex, then expanded, fragile, smooth, subumbonate, yellowish; lamellæ close, thin, rounded behind, eroded on the

edge, whitish, becoming ferruginous-brown; stem smooth, hollow, slightly thickened at the base; annulus thin, fugacious, sometimes adhering to the margin of the pileus; flesh white; spores .00033 × .0002 in.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 2″–4″ thick.

Ground. Center. June.

The surface of the pileus sometimes cracks into areas. The taste is bitter. The color of the spores is not a decided brown, and the plant might, with almost equal propriety, be referred to the subgenus Pholiota.

AGARICUS (HYPHOLOMA) PHYLLOGENUS *Peck.*

Pileus firm, convex, sometimes slightly umbonate, hygrophanous, reddish-brown when moist, alutaceous when dry; lamellæ plane, broad, close, brown, white on the edge; stem equal, fibrillose, stuffed or hollow, spreading out at the base into a thin flat disk; spores pale-brown, subglobose, .0002 in. in diameter.

Plant 8″–12″ high, pileus 2″–4″ broad, stem .5″ thick.

Fallen leaves in woods. Worcester. July.

This is a very small but distinct species, remarkable for the disk-like base of the stem by which it is attached to the leaves on which it grows.

COPRINUS INSIGNIS *Peck.*

Pileus campanulate, thin, sulcate-striate to the disk, grayish fawn color, the smooth disk sometimes cracking into small areas or scales; lamellæ ascending, crowded; stem hollow, slightly fibrillose, striate, white; spores rough, .0004 × .00028 in.

Plant 4′–5′ high, pileus 2′–3′ broad, stem 3″ thick.

About the roots of trees in woods. Worcester. July.

The species is remarkable for its rough spores. In size and general appearance it bears some resemblance to *C. atramentarius.*

COPRINUS ANGULATUS *Peck.*

Pileus submembranaceous, hemispherical or convex, plicate-sulcate, the disk smooth; lamellæ subdistant, reaching the stem, whitish, then black; stem equal, smooth, whitish; spores compressed, angular, subovate, .0004 × .00033 in.

Plant 1′–2′ high, pileus 6″–12″ broad, stem .5″ thick.

In woods. Croghan. September.

The specific name has reference to the angular character of the spores. These in shape have some resemblance to a very blunt arrow-head, they being slightly excavated on each side of the base

and gradually narrowed toward the very obtuse apex. This and the preceding species are described from dried specimens, they being respectively taken at the time of collecting for forms of *C. atramentarius* and *C. silvaticus.*

CORTINARIUS (MYXACIUM) SPHÆROSPORUS *Peck.*

Pileus convex, smooth, very viscid, pale ochraceous; lamellæ close, nearly plane, slightly emarginate, whitish, then cinnamon; stem tapering upward, solid, floccose, viscid, subconcolorous, white at the top; flesh white; spores nearly globose, about .0003 in. in diameter.

Plant 2′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Ground in woods. Croghan. September.

CORTINARIUS (PHLEGMACIUM) LONGIPES *Peck.*

Pileus convex or expanded, slightly fibrillose, viscid, yellowish or pale ochraceous; lamellæ close, plane, brownish-olivaceous, then cinnamon; stem long, slightly fibrillose, tapering upwards, whitish.

Plant 6′ high, pileus 2′–3′ broad, stem 4″ thick.

Ground in woods. Croghan. September.

CORTINARIUS CLARICOLOR *Fr.*

Ground in woods. Croghan. September.

CORTINARIUS PORPHYROPUS *A. & S.*

Ground in woods. Copake. October.

This plant is readily known by the purplish or lilac tints it assumes where bruised or wounded.

CORTINARIUS (INOLOMA) LILACINUS *Peck.*

Pileus firm, hemispherical, then convex, minutely silky, lilac color; lamellæ close, lilac, then cinnamon; stem stout, bulbous, silky-fibrillose, solid, whitish, tinged with lilac; spores nucleate, .0004 × .00025 in.

Plant 4′–5′ high, pileus 3′ broad, stem 4″–6″ thick.

Low mossy ground in woods. Croghan. September.

This is a rare but beautiful plant, allied to *C. alboviolaceus*, from which it may be distinguished by its stouter habit, deeper color and bulbous stem. In the young plant the bulb is much broader than the undeveloped pileus that surmounts it.

CORTINARIUS (INOLOMA) CLINTONIANUS *Peck.*

Pileus convex or expanded, with a few appressed silky fibrils, reddish-brown, more or less tinged with gray; lamellæ close, dull-

violaceous, then cinnamon; stem solid, silky-fibrillose, tapering upwards, concolorous, violaceous at the top; spores .0003 × .00025 in.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Ground in woods. Croghan and New Scotland. September and October.

CORTINARIUS (INOLOMA) MODESTUS *Peck.*

Pileus convex or expanded, subfibrillose, even or slightly rugose-wrinkled, alutaceous; lamellæ close, nearly plane, pallid, then cinnamon; stem bulbous, subfibrillose, hollow, or with a white pith, concolorous; flesh white; spores .00033 × .00025 in.

Plant 2′ high, pileus 1′–1.5′ broad, stem 2″ thick.

Ground in woods. Croghan. September.

It is distinguished from the preceding species by its paler color, more bulbous stem and by the entire absence of violaceous tints in the lamellæ.

CORTINARIUS (TELAMONIA) LIGNARIUS *Peck.*

Pileus smooth, hygrophanous, dark, watery-cinnamon when moist, paler when dry; lamellæ close, thin, concolorous, when young concealed by the copious white webby veil; stem equal, silky-fibrillose, hollow or with a whitish pith, subannulate, with a dense white mycelium at the base; spores .00028 × .0002 in.

Plant subcæspitose, 1′–2′ high, pileus 8″–12″ broad, stem 1″ thick.

Rotten wood. Catskill mountains. June.

CORTINARIUS TORVUS *Fr.*

Ground in woods. Maryland and Worcester. July.

CORTINARIUS (TELAMONIA) NIGRELLUS *Peck.*

Pileus at first conical, then convex or expanded, obtuse or subumbonate, minutely silky, hygrophanous, blackish-chestnut when moist, paler when dry; lamellæ close, narrow, emarginate, brownish-ochre, then cinnamon; stem subequal, silky-fibrillose, pallid, often flexuous; annulus slight, evanescent; spores .00028 × .00016 in.

Plant 2′–3′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Mossy ground in woods. New Scotland. October.

When moist the pileus has the color of boiled chestnuts, when dry, of fresh ones. The incurved margin of the young pileus is whitened by the veil. The lamellæ are darkest when young. The taste is unpleasant, resembling that of *Ag. melleus.*

Cortinarius (Hygrocybe) pulcher *Peck.*

Pileus conical, then broadly convex, umbonate, often irregular, hygrophanous, ochraceous, shining and sometimes striatulate, when moist, pale-ochraceous when dry; lamellæ subdistant, broad, emarginate, uneven on the edge, ochraceous; stem equal, solid, subflexuous, silky-fibrillose, whitish or pale ochraceous; spores .00033 × .0002 in.

Plant gregarious, 2′ high, pileus 1′–1.5′ broad, stem 1″–2″ thick.

Ground in wood. New Scotland. October.

Lepista cinerascens *Bull.*

Ground in pine woods. Croghan. September.

Our specimens were scarcely mature and the margin of the pileus shows no striations and therefore they are referred to this species with some hesitation.

Paxillus strigosus *Peck.*

Pileus convex, or expanded, dry, brittle, strigose with scattered stiff hairs, whitish; lamellæ close, narrow, subdecurrent, whitish, then pale cinnamon color, some of them forked; stem equal, solid, pruinose, concolorous; spores brownish-ochre, subglobose, .00018 in. in diameter.

Plant 2′ high, pileus 1′–1.5′ broad, stem 1″–1.5″ thick.

Ground among fallen leaves in woods. Croghan. September.

The young plant might readily be taken for a species of Clitocybe. It is at best an aberrant species, midway between Lepista and Paxillus, differing from the former in its highly colored spores and from the latter in its distinct, not anastomosing, lamellæ. Owing to the very brittle character of the pileus the lamellæ are not easily separated from it. The hairs of the pileus are either erect or appressed.

Hygrophorus purus *n. sp.*

Pure white and very fragile; pileus at first conical, then expanded and cupulate from the recurving of the thin margin, very viscid, often irregular; lamellæ subdistant, broad, ventricose, emarginate, with a slight decurrent tooth; stem smooth, subflexuous, hollow, very viscid; spores .0003 × .0002 in.

Plant 3′–6′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Ground in open woods. Croghan. September.

It is related to *H. ceraceus*, but besides its different color it is much more fragile.

HYGROPHORUS EBURNEUS *Bull.*

Ground in open woods. Bethlehem and North Greenbush. October.

The whole plant is pure white when fresh, but in drying the lamellæ assume a cinnamon-brown hue.

HYGROPHORUS COSSUS *Fr.*

Ground in open woods. North Greenbush and New Scotland. October.

The disk of the pileus is tinged with red or brown and the lamellæ retain their white color in the dried state.

HYGROPHORUS VIRGATULUS *n. sp.*

Pileus convex or expanded, viscid when moist, minutely virgate with innate blackish fibrils, whitish with a brownish disk; lamellæ distant, arcuate-decurrent, white; stem solid, viscid, equal or tapering downwards, with a few small white floccose scales at the top.

Plant subcæspitose, 2′–4′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Ground in open woods. North Greenbush. October.

The lamellæ change color in drying as in *H. eburneus.*

HYGROPHORUS BOREALIS *n. sp.*

Pileus thin, convex or expanded, smooth, moist, white, sometimes striatulate; lamellæ arcuate-decurrent, distant, white; stem smooth, equal or tapering downwards, stuffed, white.

Plant 2′ high, pileus 8″–12″ broad, stem 1″ thick.

Ground in woods. Croghan and Copake. September and October.

The species is related to *H. niveus* but the pileus is not viscid.

LACTARIUS REGALIS *Peck.*

Pileus convex, deeply depressed in the center, viscid when moist, often corrugated on the margin, white tinged with yellow; lamellæ close, decurrent, whitish, some of them forked at the base; stem stout, short, equal, hollow, smooth; taste acrid; milk sparse, white, quickly changing to sulphur-yellow; spores .0003 in.

Plant 4′–6′ high, pileus 4′–6′ broad, stem 1′ thick.

Ground in woods. Croghan. September.

This interesting plant rivals *L. piperatus* in size and closely resembles it in general appearance; but the viscid pileus and sparse milk quickly changing to yellow, as in *L. chrysorrheus*, clearly distinguish it.

Lactarius Gerardii *Peck.*

Pileus expanded or centrally depressed, dry, rugose-wrinkled, often with a minute umbo or papilla, sooty-brown, the thin spreading margin sometimes wavy or irregular; lamellæ broad, distant, decurrent, white, the interspaces uneven; stem equal, solid, colored like the pileus; flesh and spores white; taste mild; milk white, unchangeable.

Plant 3′–5′ high, pileus 2′–4′ broad, stem 4″–6″ thick.

Ground in woods and groves. Poughkeepsie. *Gerard.* Albany and Croghan. September.

In the color of the pileus and stem this species is like the large form of *L. fuliginosus*, but its real relationship is with *L. distans*, from which it is separated by its color and its longer equal stem, characters which may prove to be only varietal.

Russula sordida *Peck.*

Pileus firm, convex, centrally depressed, dry, sordid white, sometimes clouded with brown; lamellæ close, white, some of them forked; stem equal, solid, concolorous; spores globose, .0003 in.; taste acrid; flesh changing color when wounded, becoming black or bluish-black.

Plant 4′–5′ high, pileus 3′–5′ broad, stem 6″–12″ thick.

Ground under hemlock trees. Worcester. July.

It resembles *L. piperatus* in general appearance. The whole plant turns black in drying.

Russula consobrina *Fr.*

Ground in open woods. Davenport, Delaware county. Worcester.

Our specimens are very variable in color, but the prevailing hues are green, olivaceous and purple.

Nyctalis asterophora *Fr.*

Decaying fungi. Poughkeepsie. *Gerard.* Mr. G. remarks that thus far this plant has appeared each alternate season.

Marasmius Viticolæ *B. & C.*

Fallen branches. Worcester. July.

This plant is not limited to grape vines in its habitat.

Marasmius cæspitosus *Peck.*

Pileus fleshy, convex, even, brown with a lilac tint, the thin margin exceeding the lamellæ; lamellæ close, free, somewhat united with each other at the stem, narrowed outwardly, white; stem

subequal, sometimes compressed at the top, stuffed or hollow, pruinose.

Plant cæspitose, 1′–2′ high, pileus 6″–10″ broad.

On a birch stump in woods. Richmondville, Schoharie county. June.

Sometimes the pileus is irregular and the stem eccentric.

MARASMIUS LONGIPES *Peck.*

Pileus thin, convex, smooth, finely striate on the margin, tawny-red; lamellæ not crowded, attached, white; stem tall, straight, equal, hollow, pruinose-tomentose, radicating, brown or fawn color, white at the top.

Plant 2′–5′ high, pileus 4″–6″ broad, stem .5″ thick.

Among fallen leaves in woods. Savannah and Bethlehem. August and October.

The tall, straight, slender stem is the characteristic feature of this plant.

MARASMIUS GLABELLUS *Peck.*

Pileus membranaceous, convex, then expanded, distantly striate, often uneven on the disk, dingy ochraceous; lamellæ broad, distant, unequal, free, ventricose, whitish, the upper margin and the interspaces venose; stem corneous, equal, smooth, hollow, shining, reddish-brown or chestnut, whitish at the top, mycelio-thickened at the base.

Plant 1′–2′ high, pileus 6″–10″ broad, stem .5″ thick.

Fallen leaves in woods. Worcester and Croghan. July and September.

The color of the pileus approaches that of *M. campanulatus*, but it is generally paler and tinged with brown.

MARASMIUS STRAMINIPES *Peck.*

Pileus membranaceous, hemispherical or convex, smooth, striate, whitish; lamellæ distant, unequal, attached, white; stem corneous, smooth, shining, filiform, inserted, pale straw color.

Plant 1′–2′ high, pileus 1″–3″ broad.

Fallen leaves of pitch pine, *Pinus rigida*. Center. October.

The pale yellow stem becomes pallid in the dry state and is sometimes tinged with brown at the base.

PANUS STRIGOSUS *B. & C.*

Decaying wood of deciduous trees. Croghan. September.

It is remarkable for its large size and the dense hairy covering of the pileus and stem.

Lenzites vialis *Peck.*

Pileus coriaceous, sessile, dimidiate or elongated, sometimes confluent, obscurely zoned, subtomentose, brown or grayish-brown, the margin cinereous; lamellæ thin, abundantly anastomosing, pallid, cinereous-pruinose on the edge when fresh.

Pileus 6″–12″ broad.

Old railroad ties. North Greenbush and Center. October.

This is not as bright colored as *L. sepiaria*, nor so distinctly zoned; the lamellæ are closer, thinner and more anastomosing, forming pores toward the outer margin almost as in the genus Polyporus.

Boletus piperatus *Bull.*

Ground in open woods. Lowville and Bethlehem. September and October.

Boletus chrysenteron *Fr.*

Ground in open woods. Worcester and Memphis. July and August.

Boletus pallidus *Frost.*

Pileus soft, viscid when moist, smooth, pale alutaceous; tubes plane, attached, sometimes slightly depressed around the stem, small, subangular, pale yellow, slightly changing color when wounded; stem subequal, smooth, solid, pallid; spores .00045 × .00022 in.

Plant 2′–5′ high, pileus 2′–4′ broad, stem 4″–6″ thick.

Ground in woods. North Greenbush. August.

It is allied to *B. scaber*, from which its plane yellowish tubes and smooth stem will separate it.

Boletus ampliporus *Peck.*

Pileus broadly convex or expanded, sometimes slightly umbonate, dry, squamulose-tomentose, pinkish-brown; tubes convex, attached or slightly decurrent, very large, angular, compound, yellow; stem equal, solid, yellowish-brown, paler at the top and marked by the decurrent walls of the tubes; flesh whitish tinged with yellow, unchangeable; spores pale ochraceous with a greenish tinge, .00035 × .00016 in.

Plant 3′–5′ high, pileus 3′–4′ broad, stem 3″–6″ thick.

Low mossy ground in woods. North Elba and Sandlake. August and September.

Formerly I erroneously referred this plant to *B. subtomento-*

sus, from which it differs in its more tomentose pileus, larger tubes, smaller spores and smoother stem.

POLYPORUS CÆRULEOPORUS *Peck.*

Pileus fleshy, broadly convex, subtomentose, moist or hygrophanous, brown; pores short, angular, decurrent, grayish-blue; stem central or eccentric, solid, colored like the pileus, sometimes tinged with the color of the pores; flesh white.

Plant gregarious or subcæspitose, 2′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Moist shaded banks. Copake. October.

The peculiar color of the pores is a characteristic feature in this species. It and the three following species belong to the section *Mesopus*.

POLYPORUS GRISEUS *Peck.*

Pileus fleshy, firm, convex, often irregular, smooth or with a minute appressed silkiness, dry, gray; pores small, short, unequal, somewhat angular, pallid, the mouths white; stem central, thick, short, concolorous; flesh pinkish-gray.

Plant 2′–3′ high, pileus 3′–5′ broad, stem 6″–10″ thick.

Shaded banks, Copake. October.

The pores are sometimes decurrent and the walls or dissepiments are thickened on the edge.

POLYPORUS FLAVIDUS *Peck.*

Pileus fleshy, tough, depressed or funnel-form, smooth, rarely a little villous on the disk, zonate, yellow with darker bands, the margin sometimes lobed and wavy; pores short, minute, angular, yellow; stem central, solid, slightly tapering downwards, smooth, subconcolorous.

Plant 3′–5′ high, pileus 2′–4′ broad, stem 3″–4″ thick.

Ground in woods. Worcester. July.

POLYPORUS SPLENDENS *Peck.*

Pileus thin, coriaceous, expanded, subumbilicate, slightly zonate, silky, with close radiating fibers, shining, dark ferruginous when moist, tawny ferruginous when dry, the margin deeply fimbriate; pores small, angular, short, subconcolorous; stem slender, equal, tomentose, concolorous.

Plant 1′ high, pileus 6″–10″ broad, stem .5″–1″ thick.

Much decayed stumps. Center. August.

This is smaller, thinner, brighter colored and more shining than

P. perennis to which it is related. The pores are not at all decurrent and the pileus is nearly horizontal. The umbilicus, when present, is very small.

POLYPORUS HUMILIS *Peck.*

Pileus soft, smooth, spathulate, suborbicular or reniform, white; pores small, subrotund, white; stem lateral, thick, rather long, externally soft and elastic, within firm, whitish, sometimes becoming brown.

Plant 1′–2′ high, pileus 8″–12″ broad, stem 2″–3″ thick.

Half buried sticks and branches in open woods. Sterling. August.

The thick stem, with its soft spongy external coating and hard rigid center, is a peculiar character.

POLYPORUS RHIPIDIUS *Berk.*

Old logs and stumps in woods. Sterling. August.

Without an examination of the hymenium, this might easily be taken for *Panus stipticus.*

POLYPORUS MACULATUS *n. sp.*

Pileus of a cheesy consistence, broad, flattened, sometimes confluent, sessile or narrowed into a short stem, slightly uneven, white or yellowish-white, marked with darker zones and watery spots; pores minute, subangular, short, whitish, sometimes tinged with brown; flesh white.

Pileus 4′–6′ broad, 6″–8″ thick.

Prostrate trunks of trees in woods. Worcester. July.

In texture and shape this species is related to *P. sulphureus*, but the pores are smaller than in that species. The plants are sometimes cæspitose, sometimes single. The spots in the dried specimens have a smooth depressed appearance.

POLYPORUS AURANTIACUS *n. sp.*

Pileus soft, thin, sessile, dimidiate, sometimes confluent, fibrous-tomentose, obscurely zoned, orange color; pores small, angular, acute, unequal, at length lacerated, pallid inclining to orange; flesh tinged with orange, obscurely zoned.

Pileus 1′–2′ broad, pores about 1″ long.

Old logs in woods. Richmondville. July.

Related to *P. biformis.*

POLYPORUS CONCHIFER *Schw.*

Decaying wood. Buffalo. / *Clinton.* Lowville.

POLYPORUS FERRUGINOSUS *Fr.*

Prostrate trunks of trees. Niagara Falls. *Clinton.* Sterling. August.

It sometimes spreads to the extent of several feet.

POLYPORUS VIOLACEUS *Fr.*

Prostrate trunks of spruce trees, *Abies nigra.* Croghan. September.

Our specimens are somewhat doubtfully referred to this species. They are not at all violet, but dark red or liver color. This in old specimens changes to a tawny or cinnamon hue and the dissepiments become thin. The plant has a white byssoid margin.

POLYPORUS SANGUINOLENTUS *Fr.*

Rotten logs in woods. Savannah and Croghan. August and September.

POLYPORUS GORDONIENSIS *B. & Br.*

Decaying wood. Buffalo. *Clinton.*

POLYPORUS ARMENIACUS *Berk.*

Old railroad ties. North Greenbush. October.

POLYPORUS ATTENUATUS *Peck.*

Resupinate, effused, very thin, separable from the matrix, pinkish-ochre, the margin whitish; pores minute, subrotund, with thin acute dissepiments.

Prostrate trunks of deciduous trees. Croghan. September.

The pores are scarcely visible to the naked eye.

CYCLOMYCES GREENII *Berk.*

Mossy bank by the side of an old wood road. Sterling. August. A single specimen.

In our plant the pileus is top-shaped or obconic and not at all undulated lobed or zoned, but we hesitate to characterize a new species on the single specimen found and therefore refer it provisionally as above.

HEXAGONA CARBONARIA *B. & C.*

Decaying wood. Portage. *Clinton.* Worcester. July and October.

Not without doubt are our specimens referred to this species. Although agreeing in color with authenticated specimens received from Dr. Curtis, the pores are larger and the plant is not always resupinate.

Hydnum confluens *n. sp.*

Pileus thin, tough, expanded or slightly depressed, sometimes confluent, zonate, slightly fibrous-tomentose, hygrophanous, dark brown when moist, drab brown when dry; spines slender, 1″–2″ long, grayish-violet; stem short, surrounded below by a dense mycelioid tomentum spores subglobose, .00012 in. in diameter.

Plant 2′–3′ high, pileus 2′–3′ broad.

Hydnum sulphureum *Schw.*

Decaying wood. Buffalo. *Clinton.*

Hydnum ferruginosum *Fr.*

Half buried sticks and stems of herbs. Center. October.

Sistotrema confluens *Pers.*

Shaded banks. Copake. October.

In our specimens the pileus is not at all villous, but I am disposed to regard our plant as nothing more than a smooth variety. It is scarcely to be expected that a rigid agreement should always be found to exist between our fungoid plants, modified as they often are by local causes, and the brief descriptions too often drawn up from dried specimens only or from these and the few hasty notes of collectors. The describer, especially of our fleshy species, ought also to be the collector and the observer of them in their native haunts.

Grandinia coriaria *Peck.*

Effused, membranaceous-tomentose, separable from the matrix, under side and margin tawny-yellow, upper side and minute crowded granules greenish or dingy olivaceous; spores globose, rough, .0003 in. in diameter.

Forming patches 1′–3′ in diameter on old scraps of leather in damp places. Greenbush. August.

It is a very distinct but apparently a very rare species.

Thelephora Willeyi *Clinton.*

Pileus infundibuliform, thin, smooth, obscurely zoned, white, the margin entire or laciniately toothed and lobed; hymenium smooth, concolorous; stem central, equal or slightly tapering downwards, solid, white.

Plant 1′–1.5′ high, pileus 6″–12″ broad, stem .5″–1″ thick.

Ground in woods. Buffalo. *Clinton.* Lowville. September.

Sometimes the pileus is split on one side down to the stem. The species is dedicated to *Mr. H. Willey*, a most active and enthusiastic lichenist.

STEREUM TENERRIMUM *B. & R.*

Mossy ground. Indian Lake and Croghan. September and October.

I have seen no description of this species, and depend, for the correctness of the determination, upon a comparison of our specimens with authenticated ones received from the late Dr. Curtis.

STEREUM RADIATUM *Peck.*

Rusupinate or slightly reflexed, suborbicular or effused, blackish-brown; hymenium uneven, marked with thick corrugations or ridges radiating from the center, cinnamon color.

Old hemlock logs. Catskill mountains. June.

CORTICIUM LEUCOTHRIX *B. & C.*

Under surface of pine chips. Bethlehem. October.

CORTICIUM BICOLOR *Peck.*

Thin, membranaceous, flaccid, smooth, separable from the matrix, under surface greenish-yellow, upper surface white.

Rotten wood. Center. October.

CLAVARIA FISTULOSA *Fr.*

Catskill mountains. October. A single specimen.

TREMELLA FRONDOSA *Fr.*

Old stumps. Buffalo. *Clinton.* Savannah. August.

EXOBASIDIUM AZALEÆ *Peck.*

Gall subglobose, often lobed or irregular, succulent, fleshy, solid, smooth, pale green or glaucous, becoming pruinose; spores oblong, straight or curved, obscurely uniseptate, white, .0006–.0008 in. long.

Terminal on living branches of the pinxter plant, *Azalea nudiflora*, transforming the flower buds.

North Greenbush and New Scotland. May and June.

These fungus galls are usually from one to two inches in diameter and appear cotemporaneously with the blossoms of the shrub they inhabit. They are known in some localities by the name "May apples" and not being unpleasant to the taste they are sometimes eaten by voracious school boys. Upon attaining their full size they soon become dusted by the white spores which are borne upon the apices of minute filaments projecting slightly from the whole surface of the gall.

Exobasidium Andromedæ *Peck.*

Gall usually flattened or somewhat cup-shaped, more or less lobed, hollow, the cavity containing shreds of loose soft cottony filaments, smooth, pale green or green varied with red, paler and pruinose with age; spores narrow, oblong, simple, often curved near one end, white, .0007–.0009 in. long.

Lateral or rarely terminal on living branches of *Andromeda ligustrina*, transforming the leaf buds. Center. May and June.

Sometimes the dried blackened galls of the preceding year are found adhering to the branches in company with the new crop. The loose shreddy substance contained in the cavity of the gall is found by microscopic examination to be composed entirely of coarse irregular jointed filaments.

Smaller but similar galls have been seen on a species of Vaccinium at Center and one has been received from Florida, but I have not yet fully determined the characters of these. *Exobasidium Vaccinii* Woronin, occurs in Europe on *Vaccinium Vitis-Idæa*. It is perhaps worthy of remark that thus far these peculiar fungus galls have been observed on Ericaceous plants only.

Æthalium Ferrincola *Schw.*

Iron rails of railroads. Worcester and Schenevus. July.

Geaster Bryantii *Berk.*

Ground. Schoharie.

Lycoperdon pedicellatum *Peck.*

Subpyriform, whitish, the outer peridium persistent, forming dense angular spinose processes which are smaller toward the base of the plant; capillitium and spores greenish ochre or dingy olivaceous, the latter pedicellate, smooth, .00016–.00018 in. in diameter, the pedicel three to five times as long.

Plant about one inch in diameter.

Ground and rotten wood. Croghan and Center. September and October.

In shape this plant resembles the ordinary form of *L. pyriforme*, but the outer peridium is more coarse and shaggy than in that species.

Lycoperdon separans *n. sp.*

Subglobose, sessile, white, the outer peridium forming dense pyramidal substellate warts which easily separate from the membranaceous inner one; capillitium and spores dingy olivaceous, the latter globose, smooth, .00016 in. in diameter.

Ground in pastures and grassy places. Worcester. July.

SPUMARIA ALBA *DC.*

Incrusting sticks and twigs near the ground. Croghan. September.

DIDERMA CRUSTACEUM *Peck.*

Effused or circumambient, crowded, sessile, subglobose, smooth, white, outer peridium crustaceous, like the shell of some small egg, the inner delicate, appearing cinereous to the naked eye, iridescent under the microscope; columella none; spores globose, black, .0005 in. in diameter.

Fallen sticks and leaves under arbor-vitæ. Memphis. August.

DIDERMA MARIÆ-WILSONI *Clinton.*

Scattered or crowded, sessile, subglobose, smooth, white or pinkish-white, outer peridium crustaceous, like the shell of some small egg, within at the base brownish-pink, inner peridium delicate; columella subglobose, rugulose, slightly colored; spores globose, blackish-brown; .0004 in. in diameter.

Fallen leaves, sticks, moss, etc. Buffalo. *Clinton.* Memphis, Center and Sandlake. August and October.

DIDERMA FARINACEUM *Peck.*

Effused or circumambient, crowded, sessile, subglobose, plumbeous when moist, becoming white rugulosé and farinaceous when dry; spores globose, brown, black in the mass, .0004 in. in diameter.

Creeping over mosses and investing fern stems in low woods. Croghan. September.

The moisture from the fresh plant stains white paper lead color.

DIDYMIUM CONNATUM *Peck.*

Peridium depressed or subglobose, cinereous, furfuraceous, stipitate; stems mostly connate at the base, tapering upward, longitudinally wrinkled, whitish or cream color; spores subglobose, black, .0004 in. in diameter.

Decaying fungi. Portville. September.

The subfasciculate mode of growth is characteristic of this species.

DIDYMIUM FURFURACEUM *Fr.*

Rotten wood. Worcester. July.

After the breaking up of the peridium, minute portions of it are seen adhering to the flocci. The spores are globose, smooth, .00033 in. in diameter.

Didymium farinaceum *Fr.*

Fallen pine leaves. Center. October. Also on mosses. North Elba. August.

Physarum pulcherripes *Peck.*

Peridium globose, variable in color, ochraceous, gray, brown or black; stem slender, equal or slightly tapering upward, vermilion; spores globose, brown, .00033 in. in diameter.

Rotten wood. Richmondville and Worcester. July.
The bright color of the stem is quite conspicuous notwithstanding the small size of the plant.

Physarum cæspitosum *Peck.*

Peridia aggregated in tufts or clusters, crowded, sessile, smooth, brown or blackish-brown; spores dingy ochre, smooth, globose, .00025 in. in diameter.

Rotten wood. Greenbush. August.

Angioridium sinuosum *Grev.*

Dead stems of herbs and grass. Center. October.

Craterium leucocephalum *Ditm.*

Fallen leaves. Croghan and North Elba. August and September.

Craterium obovatum *Peck.*

Peridium obovate, rugose-wrinkled, glabrous, lilac-brown; flocci whitish; stem colored like the peridium; spores smooth, globose, black, .0005–.0006 in. in diameter.

Rotten wood bark and fallen leaves. Center, Sandlake and Croghan. August and September.
The peridium varies in shape from subglobose to oblong pyriform, but the prevailing form is obovate. The operculum is not distinctly shown, the peridium often appearing to be irregularly ruptured at the apex, so that possibly the species may have to be referred to Physarum.

Stemonitis herbatica *Peck.*

Densely fasciculate; capillitium slender, cylindrical, brown when moist, ferruginous-brown when dry; stem black, arising from a membranaceous hypothallus, penetrating to the apex of the capillitium; spores globose, .0003–.00035 in. in diameter.

Plant 2″–3″ high, growing on living leaves of grass and herbs. Albany. June.

The color of this plant is almost the same as in *S. ferruginea* but the spores are much larger, surpassing even those of *S. fusca*. The habitat is peculiar.

ARCYRIA NUTANS *Fr.*

Rotten wood. Richmondville. July.

TRICHIA RENIFOMIS *Peck.*

Peridia gregarious or clustered, sessile, subglobose or reniform, small, brown; flocci few, short, sparingly branched; spores globose, minutely echinulate, yellow-ochre, sometimes tinged with green, .0005 in. in diameter.

Dead bark of striped maple, *Acer Pennsylvanicum*. Portville. September.

LICEA CYLINDRICA *Fr.*

Rotten wood. Worcester and Croghan. July and September.

PERICHÆNA FLAVIDA *Peck.*

Yellow throughout; peridia crowded, clustered, sessile, variable in size and shape, shining; flocci few, short, subnodulose, obtuse, sparingly branched; spores globose, echinulate, .00045 in. in diameter.

Mosses. Sandlake. August.

The mature peridia are sometimes wrinkled at the top. The bright golden yellow color renders the clusters conspicuous.

PHOMA BRUNNEOTINCTUM *B. & C.*

Inside of chestnut burrs. Buffalo. *Clinton.*

SPHÆRONEMA MAGNOLIÆ *n. sp.*

Perithecia scattered, erumpent, black, with a long firm spine-like ostiolum a line or more in length; spores broadly elliptical or subglobose, often with a single nucleus, colored when mature, .0004 in. long.

Dead branches of the cucumber tree, *Magnolia acuminata*. Portville. September.

It has almost exactly the size and appearance of *S. spina*, but the spores constitute a distinguishing character.

DIPLODIA VULGARIS *Lev.*

Dead branches of locust trees. Buffalo. *Clinton.*

EXCIPULA EQUISETI *n. sp.*

Perithecia minute, scattered, flattened, black, furnished with a few long straight black bristles; spores straight, nearly cylindrical, colorless, .00035–.0004 in. long.

Dead stems of Equisetum. Buffalo. *Clinton.*

DINEMASPORUM ACERINUM *Peck.*

Perithecia small, pezizoid, black, hispid with short straight scattered black hairs; spores unequally elliptical, .0003 in. long, the bristle at each end scarcely one-third the length of the spore.

Dry maple wood. Buffalo. *Clinton.* April.

In *D. Robiniæ* the spores are shorter and the bristles longer than in this species.

PESTALOZZIA PEZIZOIDES *De Not.*

Bark of dead grape-vines. Fort Edward. *Howe.* North Greenbush. October.

BACTRIDIUM FLAVUM *Kze.*

Rotten wood. Buffalo. *Clinton.* Savannah and Croghan. August and September.

PUCCINIA LOBELIÆ *Gerard.*

Sori minute scattered or confluent, tawny-brown, spores oblong-elliptical, slightly constricted at the septum and easily separating into two parts, pale, .0013–.0016 in. long; pedicel short or obsolete.

Lower surface of leaves of *Lobelia syphilitica.* Poughkeepsie. *Gerard.*

The fragile spores are peculiar.

PUCCINIA CURTIPES *Howe.*

Leaves of *Saxifraga Pennsylvanica.* Yonkers. *Howe.*

UROMYCES PYRIFORMIS *Cooke:*

Leaves of sweet flag, *Acorus Calamus.* New Baltimore. *Howe.* Watkins and Montezuma marshes. September.

UROMYCES SPARGANII *C. & P.*

Sori minute, oblong, crowded, black, spores pyriform or oblong-pyriform, about .001 in. long; pedicel colored, shorter than or equal to the spore in length.

Both sides of leaves of Sparganium. Buffalo. *Clinton.* Montezuma marshes. September. New Baltimore. *Howe.*

UREDO CARYOPHYLLACEARUM *Johnst.*

Leaves of Cerastium. Poughkeepsie. *Gerard.*

ÆCIDIUM LYSIMACHIÆ *Lk.*

Leaves of *Lysimachia quadrifolia.* Poughkeepsie. *Gerard.*

ÆCIDIUM ALBUM *Clinton.*

Spots none; peridia scattered, short, white, the margin subentire; spores subglobose, white, about .0008 in. in diameter.

Lower surface of leaves of *Vicia Americana.* Buffalo. *Clinton.*

ÆCIDIUM LYCOPI *Gerard.*

Spots yellow; subiculum more or less thickened; peridia short, scattered or crowded, margin crenate; spores pale yellow.

Leaves, stems and petioles of *Lycopus Europæus.* Poughkeepsie. *Gerard.* Buffalo. *Clinton.* New Paltz. June.

It appears to be closely related to *Æ. Compositarum.*

ÆCIDIUM UVULARIÆ *Schw.*

Leaves of *Uvularia sessilifolium.* New Lots, L. I. *Merriam.*

ÆCIDIUM HYDROPHYLLI, *Peck.*

Spots small, few, yellow with a pale greenish border; subiculum thickened, whitish; peridia few, generally crowded, short, the margin subcrenate; spores bright yellow or orange; spermogonia central, on the opposite side.

Lower surface of leaves of *Hydrophyllum Canadense.* Catskill mountains. June.

CERATIUM HYDNOIDES *A. & S.*

Rotten wood in shaded places. Greenbush and Worcester. June and July.

CERATIUM PORIOIDES *A. & S.*

Decaying prostrate trunks of trees. Richmondville. July.

STILBUM RAMOSUM *Peck.*

Head subglobose whitish or pale yellow; stem thick, smooth, branched, white above, pallid or brownish below, sometimes creeping and sending up branches at intervals; spores minute, oblong.

Dead larvæ of insects buried in rotten wood. Sterling. September.

Myrothecium Fungicola *n sp.*

Receptacle small, white-margined, the disk black or greenish-black; spores oblong, about .0002 in. long.

Decaying fungi. North Greenbush.

Helicoma Mulleri *Cd.*

Dead bark of poplar branches. North Greenbush. October.
The flocci vary somewhat from those of the European plant.

Aspergillus glaucus *Lk.*

Vegetable substances in damp places. Albany.

Aspergillus fuliginosus *Peck.*

Creeping flocci white, septate, fertile flocci erect, not septate, crowned with a globose head which is rough with projecting processes; spores globose, sooty black, smooth, .00016 in. in diameter.

Rice paste and other vegetable substances. Albany.
Spores were taken from the paste and planted on apple, on which a new crop was raised.

Polyactis fasicularis *Cd.*

Dead stems of Polygonum. Greenbush. May.

Perenospora parasitica *Pers.*

Leaves of *Cardamine rhomboidea.* Buffalo. *Clinton.*

Oidium megalosporum *B. & C.*

Rotten wood. Buffalo. *Clinton.*
This species is remarkable for its very large globose spores.

Oidium fulvum *Lk.*

Rotten wood. Buffalo. *Clinton.* Savannah. August.

Fusisporium roseolum *Steph.*

Decaying potatoes. Sandlake. June.

Pilacre faginea *Fr.*

Old stumps and logs of beech. Maryland. July.

Mucor inæqualis *n. sp.*

Fertile flocci simple or once or twice divided, white; sporangia globose, at first white, then bluish-black or brownish-black; spores somewhat angular, subglobose, very unequal in size, .0002–.0005 in. in diameter.

Decaying squashes. Albany. October.

UNCINULA SPIRALIS *B. & C.* (*U. Americana* Howe.)

Leaves of grape-vines. New Baltimore. *Howe.* Buffalo. *Clinton.* Poughkeepsie. *Gerard.*

The very long appendages distinguish this from *U. Ampelopsidis.*

UNCINULA FLEXUOSA *Pk.*

Leaves of horse chestnut, *Æsculus Hippocastanum.* Buffalo. *Clinton.*

The wavy-flexuous appendages are peculiar to this species, and with its more numerous spores separate it from *U. adunca* to which it is sometimes referred.

UNCINULA PARVULA *C. & P.*

Leaves of the hackberry, *Celtis occidentalis.* Poughkeepsie. *Gerard.* September.

MICROSPHÆRA RUSSELLII *Clinton.*

Amphigenous; mycelium arachnoid, evanescent; appendages 8–18, very long, flexuous, colored, paler toward the tips which are simple or one to three times divided; sporangia ovate, 4–8; spores 4, elliptical, .0007–.0008 in. long.

Leaves and petioles of the yellow wood sorrel, *Oxalis stricta.* Buffalo. *Clinton.* North Greenbush. October.

The scanty mycelium and colored appendages separate this species from *M. holosericea.*

MICROSPHÆRA DUBYI *Lev.*

Leaves of honeysuckle, *Lonicera parviflora.* Buffalo. *Clinton.* New Baltimore. *Howe.* Croghan. September.

MICROSPHÆRA DENSISSIMA *Schw.*

Fallen oak leaves. Saratoga. October.

This is a very distinct species, forming definite orbicular patches of dense white filaments.

ERYSIPHE EUPHORBIÆ *Peck.*

Mycelium thin; conceptacles small, .0035 in. in diameter; appendages few, long, flexuous, colored; sporangia broadly ovate, 3–4; spores 3–4, large, .001 × .00065 in.

Leaves of *Euphorbia hypericifolia.* Greenbush. October.

The mycelium occurs on both sides of the leaf, but conceptacles were observed on the lower surface only.

PEZIZA HESPERIDEA *C. & P.*

Among fallen leaves. Goat Island, where it was first found. *Clinton.* Savannah. August.

Peziza unicisa *n. sp*

Cup large, thin, split on one side to the base, sessile or with a short stem, externally rugulose, minutely pulverulent under a lens, yellow, within pale yellow slightly tinged with pink; spores elliptical, usually containing two nuclei, .0005–.0006 in. long.

Ground in woods. Croghan. September.

The cups are about two inches broad. The species is related to *P. onotica.*

Peziza violacea *Pers.*

Burnt ground in woods. Worcester. July.

Peziza subochracea *C. & P.*

Dead stems of *Rubus odoratus.* Adirondack mountains. July.

Peziza lacerata *C. & P.*

Dead stems of *Rubus odoratus.* Adirondack mountains. July.

Peziza vincta *C. &]P.*

Decaying wood. Sandlake. October.

Peziza crocitincta *B. & C.*

Decaying wood. Poughkeepsie. *Gerard.* North Greenbush. October.

This seems to be the same as *P. Chlora* Schw.

Peziza Dehnii *Rabh.*

Leaves and stems of living *Potentilla argentea.* Bethlehem. June.

Peziza pulverulenta *Libert.*

Fallen leaves of pine trees. New Scotland. June.

Peziza assimilis *C. & P.*

Dead stems of *Aster puniceus.* West Albany. May.

Peziza theleboloides *A. & S.*

Spent hops. Buffalo. *Clinton.*

Peziza albumina *C. & P.*

Cups soft, orbicular or contorted, soon becoming nearly plane, whitish, then pallid, depressed in the center when dry, margin elevated; stem very short, rather thick, concolorous; asci cylindrical; spores sausage shaped, .0003 in. long.

Decorticated sticks. North Greenbush. October.

It resembles, in color and texture, fragments of the albumen of a cocoa nut. The cups are cracked and fissured in drying. In its soft substance it approaches the section *Mollisia*.

PEZIZA CORRUGATA *C. & P.*

Subgregarious; cups subglobose, then expanded and nearly plane, black, the margin elevated; hymenium corrugated, elevated in the center when dry, attached to the matrix by delicate radiating fibrils; asci subclavate; spores narrowly fusiform, two to three nucleate, .0006–.0008 in. long.

Decaying wood. North Greenbush. November.

It is allied to *P. compressa*. The spores probably become triseptate.

PEZIZA CHRYSOPLITHALMA *Gerard.*

Damp earth among mosses. Poughkeepsie. *Gerard.*

HELOTIUM RUGIPES *n. sp.*

Cups concave, then expanded, sometimes with a small dimple or umbilicus in the center, externally brown, yellowish in the dried state; disk greenish-brown, sometimes yellowish; stem short, tapering downwards, rugose-lacunose, the wrinkles extending upwards on the cup; asci slender, cylindrical; spores uniseriate, uniseptate, elliptical, .0003 × .00015 in.

Rotten wood. Worcester. July.

The cups are 2″–4″ broad. In the dried specimens before me the hymenium has retained its greenish-brown hue.

HELOTIUM THUJINUM *n. sp.*

Cup smooth, subsessile, concave or nearly plane, orange, externally a little paler; spores globose, .0003 in. in diameter.

Fallen branchlets of arbor vitæ, *Thuja occidentalis*. Lowville. September.

HELOTIUM MACROSPORUM *n. sp.*

Cups at first nearly closed, then expanded and slightly concave, whitish, externally furfuraceous; stem short, rather thick; spores oblong, containing a single large nucleus, .001–.0012 in. long.

Decaying wood of beech trees. Worcester. July.

The plant changes to a light brown in drying. The long spores suggest the specific name.

Helotium gracile *C. & P.*

Ochraceous; cups plane, then convex, immarginate, rather thin, externally slightly paler; stem slender, equal, brownish toward the base, about as long as the diameter of the cup; asci cylindrical; spores cylindrical or subfusiform, obtuse at the extremities, two to three nucleate, .0007–.0008 in. long.

Stems of herbs. Center. October.

In size and habit it resembles *P. cyathoidea*, but the cups are never closed.

Helotium Limonium *C. & P.*

Lemon yellow, externally paler; cups plane or slightly convex, immarginate, at first externally delicately farinaceous; stem slender, equal, not longer than the diameter of the cup; asci cylindrical; spores cylindrical, obtuse at each end, curved or straight, .0003 in. long.

Stems of herbs. Center. October.

Elaphomyces granulatus *Fr.*

Under ground in pine woods. Maryland and Croghan. July and September.

Hysterium sphærioides *A. & S.*

Leaves of Labrador tea, *Ledum latifolium*. Sandlake.

Hysterium maculare *Fr.*

Leaves of leather leaf, *Cassandra calyculata*. Sandlake. August.

Hysterium typhinum *Fr.*

Dead leaves of *Typha latifolia*. Guilderland. May.

Hysterium exaridum *C. & P.*

Fallen leaves of sheep-laurel, *Kalmia angustifolia*. Sandlake. June.

Hysterium angustatum *A. & S.*

Bark of deciduous trees. Sandlake.

Hysterium macrosporum *n. sp.*

Perithecia longitudinally striate; spores crowded, oblong, colored, triseptate, .0016–.002 in. long.

Decorticated pine wood. North Greenbush. November.

COLPOMA JUNIPERINUM *C. & P.*

Bark of juniper trees, *Juniperus Virginiana.* Buffalo. *Clinton.* Also on balsam trees. Adirondack mountains.

TORRUBIA CAPITATA *Fr.*

Pine woods, growing from *Elaphomyces granulatus.* Maryland and Croghan. July and September.

HYPOCREA ALUTACEA *Fr.*

Fallen leaves in woods. Croghan. September.

HYPOCREA CONTORTA *Schw.*

Among mosses on decaying wood. Buffalo. *Clinton.*

HYPOMYCES POLYPORINUS *Peck.*

Perithecia minute, ovate or subconical, seated on a pallid subiculum, smooth, yellowish or pale amber; asci narrow, linear; spores fusiform, acuminate at each end, nucleate, .0006–.0007 in. long.

On *Polyporus versicolor.* Richmondville, Worcester and Croghan. July and September.

It seems a little remarkable that this species not before observed, should be found in one season in three distinct localities.

HYPOMYCES VAN BRUNTIANUS *Gerard.*

On *Agaricus.* Poughkeepsie. *Gerard.*

NECTRIA RIBIS *Tode.*

Dead currant stems. Bethlehem and Greenbush.

NECTRIA COCCINEA *Fr.*

Dead branches of water beech, *Carpinus Americana.* Greenbush. August.

NECTRIA CELASTRI *Schw.*

Dead stems of *Celastrus scandens.* Greenbush. May.

This is often accompanied by its Conidia, *Tubercularia Celastri* Schw.

NECTRIA BALSAMEA *C. & P.*

Bark of dead balsam trees, *Abies balsamea.* North Elba. August.

NECTRIA APOCYNI *Peck.*

Conidia. Subhemispherical or irregular, small, pale red; spores fusiform, straight, .0005–.0006 in. long.

Ascophore. Cæspitose or scattered, dull red; perithecia minute, pale ochraceous and subglobose when moist, dull red collapsed or laterally compressed and rough with minute whitish scales when dry; ostiola minute; spores biseriate, uniseptate, fusiform, usually constricted in the middle, nucleate, .00065–.0008 in. long.

Lower part of dead stems of Indian Hemp, *Apocynum cannabinum.* North Greenbush. October.

NECTRIA MYCETOPHILA *n. sp.*

Perithecia crowded or scattered, minute, smooth, subglobose, pale yellow when young, then pinkish-ochre; ostiola minute, papillate, distinct, darker colored; asci subclavate; spores oblong, simple, .0005 × .00016 in.

Decaying fungi. New Scotland. October.

XYLARIA GRANDIS *n. sp.*

Large, blackish-brown, irregular, obtusely pointed and rusty-brown at the sterile tip, abruptly narrowed at the base; central substance white; perithecia subglobose; spores subfusiform, pointed at each end, straight or slightly curved, .0008–.0009 in. long; stem branched, radicating, often greatly elongated.

Plant 3′–5′ high, heads 1.5′–3′ long, 8″–12″ thick.

Ground. Portage. *Clinton.*

The branching stem and pointed sterile apices of the clubs separate this from *X. polymorpha* which it also surpasses in size. The larger spores distinguish it from *X. digitata.*

XYLARIA GRAMINICOLA *Gerard in litt.*

Club slender, cylindrical, simple, at first greenish pulverulent, then blackish-brown, roughened by the prominent globose perithecia, tips sterile, acuminate; stem smooth, straight or flexuous, brown; spores uniseriate, unequally ellipitical, .0004 × .0002 in.

Plant about 2′ high, parasitic on the roots of languishing grasses. Poughkeepsie. *Gerard.*

It is allied to *X. Hypoxylon.*

EUTYPA ACHARII *Tul.*

Decorticated poplar. Helderberg mountains. May.

DIATRYPE PLATYSTOMA *Schw.*

Dead branches of maple trees. Tyre and Center. September.

DIATRYPE BULLATA *Fr.*

Bark of dead saplings. Tyre. September.

DIATRYPE TOCCIÆANA *De Not.*

Dead hazel and alder branches. Center and Sandlake. October.

DIATRYPE MOROIDES *C. & P.*

Dead branches of alders. Sandlake. September.

MELANCONIS STILBOSTOMA *Tul.*

Dead trunks and branches of white birch, *Betula populifolia.* Center. May.

VALSA BICINCTA *C. & P.*

Dead branches of butternut, *Juglans cinerea.* Greenbush. May.

VALSA CENTRIPETA *Fr.*

Dead alders. Buffalo. *Clinton.*

LOPHIUM MYTILINUM *Fr.*

Decaying wood. Poughkeepsie. *Gerard.*

LOPHIOSTOMA MAGNATUM *C. & P.*

Decaying wood. Tyre. September.

LOPHIOSTOMA TURRITUM *C. & P.*

Dead branches of willows. Sandlake. September.

SPHÆRIA CANESCENS *Pers.*

Rotten wood. Portville and Croghan. September.

SPHÆRIA SARMENTORUM *Fr.*

Dead vines of moonseed, *Menispermum Canadense.* Poughkeepsie. *Gerard.* North Greenbush. November.

SPHÆRIA MACULÆFORMIS *Pers.*

Fallen leaves of basswood, *Tilia Americana.* Helderberg mountains. May.

SPHÆRIA STAPHYLINA *Peck.*

Perithecia minute, black, covered by the epidermis which at length ruptures in a stellate manner or irregularly; spores biseri-

ate, colorless, constricted in the middle, three to five septate, .0009–.001 in. long, the two parts formed by the central septum unequal in diameter.

Dead twigs of *Staphylea trifolia*. Helderberg mountains. May.

Sphæria Desmodii *Peck.*

Perithecia scattered or seriately placed, minute covered by the epidermis which is pierced by the acute or narrowly conical ostiolum, black; asci clavate; spores biseriate, fusiform, colorless, quadrinucleate, .00035–.0004 in. long.

Dead stems of Desmodium. Garrisons. June.

Sphæria viridicoma *C. & P.*

Dead branches of beech. Sandlake. October.

Sphæria mutans *C. & P.*

Decaying wood. Tyre. September.

Sphæria Semen *C. & P.*

Fallen petioles of mountain ash, *Pyrus Americana*. Sandlake. September.

Sphæria subconica *C. & P.*

Dead stems of herbs. Greig. September.

Sphæria fuscella *B. & Br.*

Dead stems of raspberry, *Rubus strigosus*. Greenbush. June.

Sphæria racemula *C. & P.*

Dead stems of willow herb, *Epilobium angustifolium*. Adirondack mountains. July.

Massaria bufonia *Tul.*

Bark of white oak trees. Buffalo. *Clinton*. Poughkeepsie. *Gerard*. Greenbush. May.

The spores in our plant are a little smaller than in the European, being .0006–.0008 in. long.

NEW STATIONS OF RARE PLANTS, REMARKS AND OBSERVATIONS.

Sesuvium pentandrum *Ell.*

This plant, found by Mr. Merriam near East Hampton, L. I., and formerly considered a variety of *S. Portulacastrum*, is now believed to be distinct and our only northern species.

HIBISCUS MOSCHEUTOS *L.*

Montezuma marshes. It seems a little strange that this plant with its very large showy flowers should not be cultivated by florists and ornamental gardeners.

TILIA AMERICANA var. PUBESCENS *Gr.*

Wading River, L. I. *Miller.*

DESMODIUM LÆVIGATUM *DC.*

Manorville, L. I. *Miller.*

GALACTIA MOLLIS *Mx.*

Wading River. *Miller.*

GEUM ALBUM *Gmelin.*

Greenfield. Westchester county. *Howe.* This is a variety with very small bright golden yellow petals.

MYRIOPHYLLUM TENELLUM *Bigel.*

Wading River. *Miller.*

MYRIOPHYLLUM AMBIGUUM var. LIMOSUM *Gr.*

Wading River. *Miller.*

ACNIDA CANNABINA *L.*

Not uncommon in the valley of the Hudson river below Poughkeepsie. *Howe.*

TYPHA LATIFOLIA *L.*

The dried leaves of this species are sold for thirty or forty dollars a ton at the markets near the Montezuma marshes, but the allied species, *Typha angustifolia*, is regarded as worthless, the leaves of it not being salable.

NAIAS MAJOR *All.*

Seneca river near Savannah.

POGONIA PENDULA *Lindl.*

Woods near Savannah.

JUNCUS TRIFIDUS *L.*

Shawangunk mountains, Ulster county. This rush has heretofore been found in the State on the high summits of the Adirondack mountains only. This new station is remarkable not only for being much further south, but also at a much less altitude than

are the Adirondack stations. Indeed in the Ulster county locality, this plant with a northern range meets, on common ground, *Asplenium montanum*, a fern with a southern range.

SCIRPUS DEBILIS *Pursh.*

Long pond near Wading River. *Young.*

SCIRPUS MARITIMUS *L.*

Montezuma marshes. It occurs here in a small form, about a foot high, with the heads all sessile and involucral leaves two, one subtending the cluster of spikes, the other appearing like a prolongation of the stem. *Scirpus pungens* growing by its side very much surpasses it in hight.

SCIRPUS SUBTERMINALIS *Torr.*

Wading River. *Miller.*

ANDROPOGON VIRGINICUS *L.*

Peconic river and Northville. *Young.*

ASPIDIUM ACULEATUM var. BRAUNII *Koch.*

Abundant in the "Deep Notch" between Shandaken and Lexington. Eighteen species of ferns were observed in this locality, all except three of which had previously been noticed in "Stony Clove," a locality similar to this and but a few miles south of it. The three species are *Woodsia obtusa*, *Asplenium Trichomanes*, and *Osmunda cinnamomea*. These two localities together produce one-half the whole number of species of ferns that occur in the State.

OSMUNDA CINNAMOMEA *L.*

A form was found on Pine hill, Ulster county, having the fertile frond leafy above.

BOTRYCHIUM SIMPLEX *Hitch.*

Riverhead, L. I. *Miller.*

FISSIDENS GRANDIFRONS *Brid.*

Wet rocks. Chittenango Falls. *Clinton.* This at present is our most eastern known station of this interesting but sterile moss.

DIDYMODON LURIDUS *Hornsch.*

Wet rocks. Chittenango Falls. As at Niagara Falls we here find this rare moss associated with *Fissidens grandifrons.*

DELESSERIA LEPRIEURII *Mont.*

Hudson river at Yonkers. *Howe.*

AGARICUS GALERICULATUS *Scop.*

Two well-marked varieties of this very variable species were observed the past season. One grows on the ground among fallen leaves. It has a dark-brown pileus, close lamellæ and a very long stem generally of a delicate pink color toward the top. It might be called var. *longipes*. The other grows under pine trees, has a broadly convex or expanded grayish-brown pileus and a short stem. It might be called var. *expansus*.

AGARICUS FIBULA *Bull.*

A form of a pale color with the center of the pileus and the upper part of the stem brown occurred on mossy logs in woods at Worcester and Croghan. July and September.

AGARICUS GEOPHYLLUS *Sow.*

The variety with the pileus of a beautiful lilac color occurs in Bethlehem. It is *Ag. affinis* Pers. and might appropriately be named var. *lilacinus*.

MARASMIUS VELUTIPES *B. & C.*

This with us is one of the most common species of the genus, occurring in all our woods and wooded swamps, but I have never been able to find it with an umbilicate pileus. Can it be that there are two forms, one northern with a convex pileus, the other southern with an umbilicate pileus? Or is our plant a distinct species, yet so nearly related to *M. velutipes* that the absence of an umbilicus is the only available mark of distinction? Our plant sometimes grows in lines or rows several feet in length.

BOLETUS PICTUS *Pk.*

This plant was erroneously described in a former report as "viscid when moist." Subsequent observations satisfy me that it is not viscid even in the moist state. *Boletus Spraguei* B. & C., since published, is a very closely related species, if indeed it be specifically distinct.

POLYPORUS BOUCHEANUS *Fr.*

The American plant commonly referred to this species is quite variable and has been a source of considerable perplexity. It has been ascribed by eminent mycologists to Polyporus, Favolus and Hexagona, and Fries in his Epicrisis places *P. Boucheanus* in the section Pleuropus, while Berkeley, in his Notices of N. A. Fungi, puts it in the section Mesopus, though he adds the remark that it is frequently pleuropous. I have seen very many American specimens of our so called *P. Boucheanus*, yet in but a single instance have I seen it with a central stem. There are three prominent points of disagreement between our plant and the description of *P. Boucheanus* in the Epicrisis. The stem does not become

brown at the base, "deorsum fuscescente," although closely adhering bits of bark sometimes give it such an appearance, the pores are not of an orange color, "dilute aurantiacis," and the pileus is not smooth then scaly, "lævi dein squamoso," though it is either smooth or scaly. The pores are generally decurrent, yet this prominent character is not mentioned in the description of Fries. In view of these discrepancies it seems almost certain that our plant ought to be regarded as a distinct species, but, in view of its variable character, I hesitate to separate it as such until I shall have had the opportunity of comparing it with authenticated European specimens of *P. Boucheanus.*

Gymnosporangium clavipes *C. & P.*

The protospores germinate at each end, the pedicel separating from the base about the time the filament protrudes from the lower or basal cell of the protospore. In *Podisoma Juniperi* the protospores germinate at the septum.

Æcidium Clematitis *Schw.*

Leaves of *Clematis Virginiana.* Poughkeepsie. *Gerard.*

In the preceding pages, when no name is added to the station or stations, the plant has been found therein by the writer. Dates signify the time of collecting the specimens, and therefore indicate to some extent the time of the occurrence of the plant. The single and double accent marks placed at the right of figures denote respectively inches and twelfths of an inch.

My warmest thanks are due to those Botanists who have kindly aided me by their generous contributions of specimens.

Most respectfully submitted.

CHAS. H. PECK.

Albany, *Januury 3d*, 1873.

1873

REPORT OF THE BOTANIST.

1873

S. B. WOOLWORTH, LL.D.,

Secretary of the Board of Regents of the University:

SIR — Since the date of my last report specimens of two hundred and forty-six species of plants have been mounted and placed in the State Herbarium. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Essex, Rensselaer, Hamilton and Sullivan. These represent one hundred and twenty species new to the Herbarium, and one hundred and eighteen species new to the State. Ninety-seven are fungi, of which thirty-nine are considered new or undescribed species. A list of plants collected is marked (2).

Specimens of thirty-one species new to the Herbarium and not among my collections of the past season have been received from correspondents. These were collected in the counties of Dutchess, Erie, Onondaga, Oneida, Saratoga, Ulster, Suffolk and Westchester. If these be added to those of my own collecting, the total number of additions to the Herbarium, the past season, becomes one hundred and fifty-one species. This does not include extra-limital species, specimens of a considerable number of which have been received. A list of contributors and their contributions is marked (3).

A classified statement of New York State species collected and contributed is given below.

PLANTS COLLECTED.	New to the Herbarium.	New to the State.	New to Science.
Flowering Plants	3	1	
Club Mosses.....	1	1	
Mosses	5	5	
Liverworts.....	5	5	
Lichens	9	9	
Fungi	97	97	39
	120	118	39
PLANTS CONTRIBUTED.			
Flowering Plants	9	7	
Ferns	2	2	
Mosses	1	1	
Algæ	1	1	
Fungi	18	18	5
	151	147	44

A list of previously unreported species, descriptions of new species, new stations of rare plants, etc., is marked (4).

The plan of making colored sketches of fleshy fungi, as fast as collected, has been continued. Experiments have also been continued with the purpose of increasing the list of species known to be edible. I have no hesitation in adding *Coprinus micaceus* and *Agaricus naucinus* to this list. The former should be taken while young, before the lamellæ have changed to a black color, for this change spoils the attractive character of the dish. This fungus has not the filthy habits of some of its congeners as indicated by the generic name. It grows in tufts or clusters upon decaying wood or stumps. It is not rare even in cities, springing from decaying stumps and roots of shade trees that have been cut down. It has, therefore, the advantage over most others of being procurable in a fresh condition at our very doors. It appears in successive crops in favorable seasons from May to November.

The other species, *A. naucinus*, grows in grassy places and on lawns, and has the advantage of being free from the attack of insects. The presence of insect larvæ detracts

much from the value of many edible fungi, but I have never found them in this species. It is about the same size as the common edible mushroom, *A. campestris*, and not very dissimilar to it in general appearance, but the lamellæ, as well as the rest of the plant, are white, and never have the bright pink color seen in the common mushroom. Its taste, when cooked, is similar to that of *Coprinus comatus*, but its flesh is less tender. It combines beauty and utility in an unusual degree, it being very even and symmetrical in form.

My attention having been directed to the fact that, in some parts of the Great Northern Wilderness, the spruce trees were rapidly dying, to the great pecuniary loss of the lumbermen and land owners, I visited the counties of Hamilton and Essex, partly with the purpose of making some investigations into the nature and cause of the malady. It is said that in some tracts of considerable extent, nearly all the spruce trees are killed, giving to the forest a desolate look and a prevailing brown hue, much as if a fire had run through the woods. I failed to find any of the affected districts, and it is perhaps hardly worth while to speculate concerning the cause of the evil. It may not be out of place, however, to mention three supposable or possible causes, by way of suggesting directions in which those having the opportunity of investigation may look. The three are insects, fungi and drought. It is recorded that considerable tracts of pine forest are sometimes killed by the attacks of multitudes of small coleopterous insects, and it is at least supposable that spruce trees may have a similar foe. Young spruce trees were observed in the town of Keene, which, at a distance, appeared to have their branches terminated by an abundant crop of cones, but, upon a closer observation, the apparent cones proved to be only the dead and discolored tips of the branches. In most cases every leaf upon the affected parts of the branches was dead, and had a gall-like enlargement at its base, evidently the work of some insect. Attacks of this kind, if sufficiently numerous and persistent, would kill the tree.

Fungi sometimes cause the death of trees, but cases of this kind are comparatively rare, and it is not very likely that the destruction of the spruces will be found due to such a cause. An interesting instance of a fungoid malady among them will, however, be noticed presently.

Long continued dry weather may be mentioned as one of the most probable causes. The terrible destruction of coniferous trees, that happened in the winter of 1871 and 1872, is thought by many to be attributable to a lack of the necessary amount of moisture; nor so far as I am informed, did the malady of the spruces in the "North Woods" attract special attention previous to that unfortunate winter. The proportion of deaths is said to be greatest among the trees of low lands; and this is what might be expected, for such trees are generally less vigorous, and therefore less likely to withstand any unfavorable change in their circumstances, and especially a change from their usual abundance of moisture to a scarcity of it. As the miser becomes more miserly by the increase of his hoarded treasures, so the rapid destruction of our forests may be accelerated by nature herself when man becomes too avaricious and too improvident to manifest a just appreciation of the wild woodland, one of nature's choicest gifts.

An interesting instance of the special liability of weak, unthrifty plants to the attacks of parasitic fungi was observed in Essex county. Small sphagnous marshes abound among the Adirondack Mts., and about the shores of many of the small lakes of that region. Upon and about these marshes the spruces are almost always small and starved, or sickly in appearance. The branches are abundant, the lowest, in most cases, springing from the very base of the trunk; but the internodes are short and small, indicating very slow growth and the leaves seldom attain the usual size, or have the dark, green hue of those on more vigorous, healthy plants. The closeness of the "grain," or concentric layers of wood, also indicates extreme slowness of growth, thirty rings in one instance forming a trunk scarcely more than an inch in diameter.

Also on the high summits of the mountains, a similar starved and feeble growth is apparent. The trees become dwarfed, bushy and half prostrate. They cling close to the ground as if seeking shelter from the fierce winds, while their trunks and branches are generally clad with a shaggy coat of lichens, as if some such external protection against the bitter cold of those elevated places were needed. So unlike the ordinary spruce trees do these appear, that any but a close observer might readily be pardoned for doubting if they

really were the same species. Everywhere, upon Nipple Top, Mt. Colvin, Haystack, Skylight, Mt. Marcy and the marshes of the Boreas Ponds, these feeble spruces, struggling for an existence in uncongenial places, were badly infested by a species of rust-fungus, *Peridermium decolorans*, that attacks and discolors the leaves. But nowhere on the lower and drier lands, where the growth of the spruces is more vigorous and healthy, was any evidence of the presence of this fungus visible. It seems to have been unusually abundant the past season, for it was not observed in any of my previous visits to the mountains. So many of the leaves were affected that at a considerable distance the yellowish hue of the foliage was apparent. The effect upon the trees must necessarily be detrimental, but, whether it will prove fatal, future observation must tell.

The bramble rust, *Uredo luminata*, is rapidly becoming a pest to the cultivators of blackberries and raspberries, if we may judge from the numerous complaints of its ravages and the frequent inquiries for a remedy. It is certainly desirable that some one, having facilities for such work, should institute a series of experiments for the purpose of discovering some effective means of counteracting or preventing its injurious attacks. The presence of the fungus can be detected soon after the leaves begin to expand, and it becomes more and more obvious until the whole lower surface of the affected leaf is covered with pale blotches. Soon these are ruptured, revealing the very bright orange-colored dust — the spores of the fungus — which now gives a brilliant hue to the affected surface of the leaf, and is ready for dissemination and the further extension of the mischief. It would therefore be well to employ the remedial agents before the epidermis is ruptured and the spores disseminated.

In consequence of the growing interest in the study of fungi, and the numerous inquiries concerning the best methods of preparing and preserving specimens, it has been thought best to give a few brief hints and suggestions in relation to their collection and preservation. The collector should have a suitable tin box in which to carry his specimens. With care, a little ingenuity in placing specimens in the box, and a few small paper boxes for delicate or fragile species, an ordinary botanical box will answer. A box with partitions, so

arranged that specimens may be kept separate and protected from the injury of mutual pressure, is sometimes recommended. Envelopes or folded paper pockets are convenient for the reception of the minute species that inhabit herb stems, twigs, bark, etc., as much time and labor is saved by keeping each species in a wrapper by itself. Leaf specimens may also be placed in similar wrappers, or in some small portfolio or book that can be conveniently carried. A pocket lens, a stout sharp knife, a lead pencil and a memorandum book should always be carried on collecting excursions. The habitat of every species should be carefully noted, and any new, remarkable or interesting fact be at once entered in the memorandum book. Of the fleshy putrescent fungi, full descriptions of the fresh plant are desirable whenever practicable, unless it be a known species.

Fungi are so diverse in character, that the same mode of treatment is not applicable to all. The fleshy perishable species, such as the Agarici, Boleti, etc., are the most difficult to preserve. The most convenient method of preserving them is by drying; putting them in alcoholic or other preservative solutions being expensive and requiring too much space. They should not at first be placed in a press. They may be exposed to the full rays of the sun, or placed under or near a stove in which a fire is kept burning, but care must be taken not to heat them so much as to discolor them. The best success is generally attained when the process of drying is slow but continuous. It is sometimes better, however, to dry them as rapidly as possible without burning, in order to prevent decomposition and injury from the larvæ of insects. The Coprini or inky fungi, which are especially difficult to dry well, on account of the rapid deliquescence of the lamellæ, are sometimes successfully treated by suspending them in a sunny exposure in the open air. After they have been thoroughly dried, they may, at any convenient time, be exposed to the moist air of a rainy day, dewy night, or damp cellar, until they are flexible enough to be pressed into proper shape to lie well on the herbarium sheets. This slight moisture may be abstracted, and the proper shape made permanent, by placing the specimens in any ordinary plant press for a short time. Fungi of a dry or coriaceous texture may be placed in the plant press without previous drying, but even these often

make better specimens, if treated in the same manner as the fleshy ones. Some Polypori are so hard and tough, that drying under pressure is impracticable. Entire specimens of such should be arranged in drawers or on shelves, but thin vertical and horizontal slices or sections may be placed on the herbarium sheets. It is well to preserve such thin vertical sections of all thick and bulky species, as they serve to show the color and character of the internal substance and of the interior of the stem.

Fungi, parasitic on living plants or their leaves, should be collected and preserved on the plants or leaves they inhabit. These may be dried in the plant press, or, if more convenient, between the leaves of an old book; but it is better to use only just enough pressure to keep the leaves smooth, avoiding the crushing of the parasite if possible.

The very fragile fungi, known as Myxogasters, should never be placed under pressure, not even of the herbarium sheets. Small paper boxes, one-fourth of an inch deep and about three inches long and two wide, are convenient receptacles for these. They may be glued to the herbarium sheets and placed in the herbarium without inconvenience.

The multitudes of Sphæriaceous and other minute fungi that inhabit fallen leaves, dead branches, herb stems, bark and decaying wood, need little or no preparation, except proper trimming of the matrix, so that the specimens shall not be too thick, and shall lie well on the herbarium sheet. In such genera as Diatrype and Valsa, it may be well to trim away a portion of the bark or the covering epidermis, in order to reveal the concealed characters as much as possible. Vertical sections of the larger species of Xylaria and Hypoxylon are desirable. The general rule is to exhibit as many of the specific characters as possible, but, if only a single specimen of a species is possessed, it is better to leave it entire.

It is well to poison all specimens of fungi. The fleshy species, and some of the hard Polypori, are especially liable to be attacked by insects, and, unless poisoned, would be speedily destroyed. They must also be kept in a dry place, or they will soon become moldy.

In mounting specimens, I deem it better, for the sake of uniformity, to use sheets of the ordinary size, even though it is a little more expensive, giving a whole sheet to a species.

This will, in most cases, afford space enough for the exhibition of the various stages and forms of a species. The specimens may be glued to the sheet in the same manner as flowering plants, but leaf specimens are best attached by adhesive strips, as they are apt to separate from the glue or else become broken by the contraction and expansion of the herbarium sheet. Adhesive plaster, used by physicians and surgeons, may be cut into narrow strips and used for this purpose.

If, in all cases of fleshy fungi that change color in drying, as many of them do, a colored sketch of the fresh plant could be attached to the herbarium sheet, it would add much to the value and utility of the collection, but this is only practicable when the requisite time and skill can be commanded. So also, the addition of a magnified sketch of the spores of all species is greatly to be desired, but can only be attained by the use of a compound microscope with the camera lucida.

(1.)

PLANTS MOUNTED.

Reseda luteola *L.*
Medicago sativa *L.*
Desmodium lævigatum *DC.*
Potentilla recta *Willd.*
Heuchera Americana *L.*
Torilis Anthriscus *Gært.*
Helianthus angustifolius *L.*
Hieracium murorum *L.*
Utricularia resupinata *Greene.*
Pycnanthemum pilosum *Nutt.*
Chenopodium polyspermum *L*
Rumex Engelmanni *Ledeb.*
Scirpus debilis *Pursh.*
Rhynchospora nitens *Vahl.*
Agrostis perennans *Tuck.*
Panicum amarum *Ell.*
Andropogon Virginicus *L.*
Asplenium montanum *Willd.*
Chara hispida *L.*
C. Hedwigii *Ag.*
Pannaria lurida *Mont.*
P. Guepini *Delis.*
P. rubiginosa *Ach.*
Collema tenax *Sw.*
C. cladodes *Tuck.*
Physcia cil. v. angustata *Tuck*
Gyalecta Pineti *Schrad.*
Stereocaulon condensatum.
Biatora rivulosa *Ach.*
B. Russellii *Tuck.*
Buellia turgescens *Nyl.*
Lecanactis pr. v. chloroconia.
Staurothele circinata *Tuck.*
Arthonia lecideëlla *Nyl.*
Verrucaria pinguicula *Mass.*
V. pyrenophora *Ach.*
V. rupestris *Schrad.*
V. papillosa *Ach.*
Stigonema coloratum *Ag.*
Ectocarpus aureus *Lyngb.*

Agaricus Friesii *Lasch.*
A. fuscosquameus *Pk.*
A. felinus *Pers.*
A. oblitus *Pk.*
A. ponderosus *Pk.*
A. rubicundus *Pk.*
A. flavescens *Pk.*
A. lacunosus *Pk.*
A. laterarius *Pk.*
A. Limonium *Pk.*
A. leucocephalus *Krbh.*
A. fumidellus *Pk.*
A. thujinus *Pk.*
A. Hebeloma *Pk.*
A. connexus *Pk.*
A. albissimus *Pk.*
A. maculosus *Pk.*
A. Truncicola *Pk.*
A. subzonalis *Pk.*
A. Gerardianus *Pk.*
A. niger *Schw.*
A. conigenus *Pers.*
A. coloreus *Pk.*
A. miratus *Pk.*
A. echinipes *Lasch.*
A. rugosodiscus *Pk.*
A. cyaneus *Pk.*
A. byssisedus *Pers.*
A. foliomarginatus *Pk.*
A. fuscofolius *Pk.*
A. Herbarum *Pk.*
A. nephrodes *B. & C.*
A. fulvotomentosus *Pk.*
A. cerasinus *Pk.*
A. stellatosporus *Pk.*
A. griseoscabrosus *Pk.*
A. bellulus *Pk.*
A. geminellus *Pk.*
A. discomorbidus *Pk.*
A. expansus *Pk.*

Agaricus callistus *Pk.*
A. coprinoides *Pk.*
A. diminutivus *Pk.*
A. Howeanus *Pk.*
A. phyllogenus *Pk.*
Coprinus insignis *Pk.*
C. angulatus *Pk.*
Cortinarius sphærosporus *Pk.*
C. longipes *Pk.*
C. claricolor *Fr.*
C. porphyropus *A. & S.*
C. lilacinus *Pk.*
C. Clintonianus *Pk.*
C. modestus *Pk.*
C. lignarius *Pk.*
C. torvus *Fr.*
C. nigrellus *Pk.*
C. pulcher *Pk.*
Lepista cinerascens *Bull.*
Paxillus strigosus *Pk.*
Hygrophorus purus *Pk.*
H. eburneus *Bull.*
H. Cossus *Fr.*
H. virgatulus *Pk.*
H. borealis *Pk.*
Lactarius regalis *Pk.*
L. Gerardii *Pk.*
Russula sordida *Pk.*
R. consobrina *Fr.*
Nyctalis asterophora *Fr.*
Marasmius cæspitosus *Pk.*
M. Viticola *B. & C.*
M. glabellus *Pk.*
M. longipes *Pk.*
M. straminipes *Pk.*
Panus strigosus *B. & C.*
Lenzites vialis *Pk.*
Boletus piperatus *Bull.*
B. chrysenteron *Fr.*
B. pallidus *Frost.*

Boletus ampliporus *Pk.*
Polyporus cæruleoporus *Pk.*
P. griseus *Pk.*
P. flavidus *Pk.*
P. splendens *Pk.*
P. humilis *Pk.*
P. rhipidius *Berk.*
P. maculatus *Pk.*
P. aurantiacus *Pk.*
P. conchifer *Schw.*
P. ferruginosus *Fr.*
P. sanguinolentus *Fr.*
P. attenuatus *Pk.*
P. Gordoniensis *B. & Br.*
P. Armeniacus *Fr.*
Cyclomyces Greeni *Berk.*
Hexagona carbonaria *B. & C.*
Sistotrema cofluens *Pers.*
Hydnum confluens *Pk.*
H. sulphureum *Schw.*
H. ferruginosum *Fr.*
Grandinia coriaria *Pk.*
Thelephora Willeyi *Clinton.*
Stereum tenerrimum *B. & R.*
S. radiatum *Pk.*
Corticium leucothrix *B. & C.*
C. bicolor *Pk.*
Clavaria fistulosa *Fr.*
Exobasidium Azaleæ *Pk.*
E. Andromedæ *Pk.*
Lycoperdon pedicellatum *Pk.*
Æthalium Ferrincola *Schw.*
Spumaria alba *DC.*
Licea cylindrica *Fr.*
Stemonitis typhoides *DC.*
S. herbatica *Pk.*
Arcyria incarnata *Pers.*
A. nutans *Fr.*
A. globosa *Schw.*
Didymium furfuraceum *Fr.*
Didymium farinaceum *Fr.*
D. connatum *Pk.*
Diderma crustaceum *Pk.*
D. farinaceum *Pk.*
D. Mariæ-Wilsoni *Clinton.*
Trichia reniformis *Pk.*
Physarum pulcherripes *Pk.*
Angioridium sinuosum *Grev.*
Perichæna flavida *Pk.*
Licea cæspitosa *Pk.*
Craterium leucocephalum.
C. obovatum *Pk.*
Diplodia vulgaris *Lev.*
Excipula Equiseti *Pk.*
Dinemasporium Robiniæ *Ger.*
D. acerinum *Pk.*
Hendersonia Robiniæ *West.*
Pestalozzia pezizoides *De Not.*
Bactridium Ellisii *Berk.*
Puccinia Lobeliæ *Gerard.*
P. curtipes *Howe.*
Æcidium Lycopi *Gerard.*
Æ. Uvulariatum *Schw.*
Æ. Hydrophylli *Pk.*
Ceratium hydnoides *A. & S.*
C. porioides *A. & S.*
Stilbum ramosum *Pk.*
Helicoma Mulleri *Cd.*
Oidium fulvum *Lk.*
O. megalosporum *B. & C.*
Fusisporium roseolum *Steph.*
Pilacre Petersii *B. & C.*
Erysiphe Euphorbiæ *Pk.*
Peziza violacea *Pers.*
P. subochracea *C. & P.*
P. lacerata *C. & P.*
P. crocitincta *B. & C.*
P. albumina *C. & P.*
P. corrugata *C. & P.*
P. coronata *Bull.*

Peziza Dehnii *Rabh.*
Helotium rugipes *Pk.*
H. macrosporum *Pk.*
H. thujinum *Pk.*
H. gracile *C. & P.*
H. Limonium *C. & P.*
Hysterium typhinum *Fr.*
H. sphærioides *A. & S.*
H. maculare *Fr.*
H. macrosporum *Pk.*
Torrubia capitata *Fr.*
Hypocrea alutacea *Fr.*
Nectria Ribis *Tode.*
N. Celastri *Schw.*
N. ochracea *Fr.*
N. balsamea *C. & P.*
N. Apocyni *Pk.*
N. mycetophila *Pk.*
Elaphomyces variegatus *Vitt.*
Xylaria grandis *Pk.*
Hypoxylon perforatum *Schw.*
H. rubiginosum *Fr.*
Diatrype moroides *C. & P.*
D. bullata *Fr.*
D. adusta *C. & P.*
D. atropunctata *Schw.*
D. quercina *Tul.*
Valsa bicincta *C. & P.*
V. centripeta *Fr.*
V. profusa *Fr.*
V. hapalocystis *B. & Br.*
Massaria Argus *Tul.*
Eutypa Acharii *Tul.*
Lophiostoma magnata *C. & P.*
L. turrita *C. & P.*
Sphæria viridicoma *C. & P.*
S. fuscella *B. & Br.*
S. Semen *C. & P.*
S. mutans *C. & P.*
S. subconica *C. & P.*
S. Sarmentorum *Fr.*
S. Staphyleæ *Pk.*
S. Desmodii *Pk.*

(2.)

PLANTS COLLECTED.

Polygonum Hartwrightii *Gr.*
Lycopodium sabinæfolium.
Thelia Lescurii *Sulliv.*
Hypnum Oakesii *Sulliv.*
H. exannulatum *Gumb.*
H. cupressiforme *L.*
H. acutum *Mitt.*
Sphagnœcetis Hubeneriana,
Jungermannia albescens *Hook.*
J. ventricosa *Dicks.*
Scapania undulata *N. & M.*
Frullania Oakesiana *Aust.*
Cetraria Fahlunensis *Schær.*
Lecanora badia *Fr.*
Cladonia deformis *Hoffm.*
C. papillaria *Hoffm.*
Bæomyces byssoides *Fr.*
Biatora milliaria *Fr.*
Lecidea arctica *Smf.*
L. Diapensiæ *Th. Fr.*
L. melancheima *Tuck.*
Agaricus fumosoluteus *Pk.*

Agaricus rosellus *Fr.*
A. atroalboides *Pk.*
A. constans *Pk.*
A. delectabilis *Pk.*
A. Acicula *Schæff.*
A. galopus *Schrad.*
A. montanus *Pk.*
A. Rhododendri *Pk.*
A. luteofolius *Pk.*
A. infidus *Pk.*
A. fuscodiscus *Pk.*
A. fragilior *Pk.*
A. chimonophilus *B. & Br.*
Coprinus aquatilis *Pk.*
Cortinarius fuscoviolaceus *Pk.*
Hygrophorus aurantiacoluteus
Gomphidius stillatus *Strauss.*
Lactarius alpinus *Pk.*
Marasmius minutus *Pk.*
M. minutissimus *Pk.*
Panus operculatus *B. & C.*
Polyporus squamosus *Fr.*
P. spumeus *Fr.*
P. volvatus *Pk.*
P. nigricans *Fr.*
P. conchatus *Fr.*
P. Pinicola *Fr.*
P. vulgaris *Fr.*
P. incarnatus *Fr.*
Trametes odoratus *Fr.*
Merulius porinoides *Fr.*
Irpex lacteus *Fr.*
Stereum balsameum *Pk.*
S. versiforme *B. & C.*
Corticium calceum *Fr.*
C. cremoricolor *B. & C.*
C. lilacinofuscum *B. & C.*
Cyphella candida *Pk.*
Clavaria spathulata *Pk.*
Typhula gyrans *Fr.*
Typhula filicina *Pk.*
Tremella enata *B. & C.*
T. stipitata *Pk.*
Dacrymyces fragiformis *Nees.*
Ditiola radicata *Fr.*
Reticularia umbrina *Fr.*
Diderma umbilicatum *Pers.*
Phoma ellipticum *Pk.*
Pestalozzia Mariæ *Clinton.*
Coryneum triseptatum *Pk.*
Spilocæa concentrica *Schw.*
Helicosporium olivaceum *Pk.*
H. ellipticum *Pk.*
Ustilago Syntherismæ *Schw.*
Uredo Empetri *DC.*
Peridermium elatinum *A. & S.*
P. balsameum *Pk.*
P. decolorans *Pk.*
Pterula setosa *Pk.*
Cladosporium Lignicola *Cd.*
Oidium corticale *Pk.*
Fusidium flavovirens *Fr.*
Monilia candida *Pk.*
Pilobolus crystallinus *Tode.*
Chætomium melioloides *C.& P*
Helvella sphærospora *Pk.*
Mitrula cucullata *Fr.*
M. inflata *Schw.*
Peziza adusta *C. & P.*
P. subcarnea *C. & P.*
Ascobolus pilosus *Fr.*
Helotium aciculare *Fr.*
H. fastidiosum *Pk.*
Tympanis Fraxini *Schw.*
Hysterium tumida *Duby.*
H. xylomoides *Chev.*
H. Rhododendri *Schw.*
Rhytisma monogramma *B.& C*
Torrubia entomorrhiza *Fr.*
Epichloe Hypoxylon *Pk.*

Nectria episphæria *Fr.*
Dothidea Dalibardæ *Pk.*
Diatrype platasca *Pk.*
D. corniculata *Ehrh.*
Valsa impulsa *C. & P.*
V. subclypeata *C. & P.*
V. Peckii *Howe.*
Lophiostoma sexnucleata *Ck.*
Sphæria lagenaria *Pers.*
S. orthogramma *B. & C.*
S. thujina *Pk.*
S. Parnassiæ *Pk.*
S. Arceuthobii *Pk.*

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss S. P. Monk, Santa Barbara, Cal.

Evernia vulpina *Wulf.*

Mrs. E. E. Atwater, Chicago, Ill.

Viola lanceolata *L.*
V. primulæfolia *L.*
V. cucullata *L,*
Argemone Mexicana *L.*
Pinguicula pumila *Mx.*
Gelsemium sempervirens *Ait.*
Polypodium incanum *Sw.*
Aspidium patens *Sw.*
Evernia vulpina *Wulf.*

Miss M. L. Wilson, Buffalo, N. Y.

Chondria intertexta *Chauv.*
C. pinn. *v.* osmunda *Ag.*
Gigartina acicularis *Wulf.*
G. mamillosa *G. & W.*
Sphærococcus coronopifolius.
S. cor. *v.* clavatus *Ag.*
Schizymena Dubyi *Chauv.*
Rhodymena palmetta *Grev.*
R. pal. *v.* Sarniensis *Grev.*
Dasya coccinea *Huds.*
Delesseria ruscifolia *Lam.*
Polysiphonia byssoidea *Grev.*
Callithamnion Rothii *Lyngb.*
Callithamnion Daviesii *Ag.*
C. Turneri *Ag.*
C. tetricum *Dill.*
C. roseum *Sm.*
C. tetragonum *Ag.*
Ceramium ciliatum *Ellis.*
C. Delongchampii *Chauv.*
Lomentaria ovalis *Huds.*
Pycnophytus tuberculatus.
Cystoseira siliquosa *Ag.*
C. ericoides *G. & W.*
Calliblepharis ciliata *Kutz.*
C. jubata *Kutz.*

Corynospora pedicellata *J. Ag.*
Bangia Ceramicola *Chauv.*
Codium Bursa *L.*
C. tomentosum *Ag.*
Ulva bullosa *Roth.*
Tetraspora lubrica *Ag.*
Chætomorpha area *Dill.*
Lemanea torulosa *Ag.*
Batrachospermum vagum.

Rev. A. P. VAN GIESON, Poughkeepsie, N. Y.

Aconitum Napellus *L.*

Rev. H. WIBBE, Oswego, N. Y.

Ammannia humilis *Mx.*
Zygadenus glaucus *Nutt.*
Tofieldia glutinosa *Willd.*

Prof. P. A. PUISSANT, Troy, N. Y.

Verbena bracteosa *Mx.*

E. HUNT, Utica, N. Y.

Botrychium matricariæfolium *Braun.*

E. W. MUNDY, Syracuse, N. Y.

Botrychium Lunaria *Sw.*

H. GILLMAN, Detroit, Mich.

Parnassia parviflora *DC.*
Abies balsamea *Marshall.*
Botrychium Lunaria *Sw.*

A. H. CURTISS, Liberty, Va.

Sedum Nevii *Gr.*
Galium anglicum *Huds.*
Arcenthobium campylopodum *Engelm.*

E. C. HOWE, M. D., Yonkers, N. Y.

Puccinia curtipes *Howe.*
Uromyces Phaseoli *Strauss.*
Dothidea tetraspora *Fr.*

H. W. YOUNG, Aquebogue, N. Y.

Solidago elliptica *Ait.*
S. cæs. *v.* albiflora *Young.*
Callitriche heterophylla *Ph.*
Polygonum Careyi *Olney.*
Rumex Engèlmanni *Ledeb.*
Scirpus Olneyi *Gr.*
Carex striata *Mx.*
C. sterilis *Willd.*
Agrostis alba *L.*

I. C. MARTINDALE, Camden, N. J.

Protomyces Martindalei *Pk.*

Prof. G. H. FRENCH, Irvington, Ill.

Fragaria Vir. *v.* Illinœnsis *Gr.*
Saxifraga Forbesii *Vasey.*
Heuchera Rugellii *Shutt.*
Dodecatheon Mea. *v.* Frenchii *Vasey.*
Phlox stellaria *Gr.*
Cheilanthes vestita *Sw.*
Pellæa atropurpurea *Lk.*
Asplenium pinnatifidum *Nutt.*

W. R. GERARD, Poughkeepsie, N. Y.

Polyporus cupulæformis.
Discosia maculæcola *Gerard.*
Septoria Verbenæ *D & R.*
S. Hepaticæ *Desm.*
S. Tiliæ *West.*
S. Acericola *Desm.*
Phyllosticta Cytisi *Desm.*
P. vulgaris *Desm.*
Diplodia Fibricola *Berk.*
D. juglandina *Fr.*
Ascochyta Medicaginis *Fckl.*
Glæosporium Juglandis *Lib.*
Melanconium juglandinum
Phragmidium effusum *Fckl.*
Puccinia Cirsii *Lasch.*
P. obtusa *Schl.*
P. obtegens *Tul.*
P. Pimpinellæ *Lk.*
P. Bardanæ *Cd.*
P. Ægopodii *Lk.*
Uromyces Genistæ *Fckl.*
Cystopus cubicus *Lev.*
Peridermium Pini *Chev.*
Rœstelia cornuta *Tul.*
Æcidium Taraxaci *Kz.*
Æ. Centaureæ *DC.*
Perenospora sordida *Berk.*
P. Urticæ *Casp.*
P. Bistortæ *Fckl.*
P. ovata *Fckl.*
Sporotrichum densum *Lk.*
Erysiphe Linkii *Lev.*
E. Umbelliferarum *De By.*
E. tortilis *Lk.*
Microsphæra holosericea *Lev.*
Rhytisma salicinum *Fr.*
R. umbonatum *Fr.*
Psilospora faginea *Rabh.*
Dothidea Ulmi *Fr.*
Valsa nivea *Fr.*
Sphærella sparsa *Awd.*
S. maculæformis *Pers.*
S. perexigua *Fckl.*

E. S. MILLER, Wading River, N. Y.

Ptelea trifoliata *L.*
Euphorbia Cyperissias *L.*
Scirpus Olneyi *Gr.*
Cyperus Michauxianus *Schul.*
Agrostis alba *L.*
Onoclea sensibilis *L.*

J. S. MERRIAM New York, N. Y.

Uredo Ledicola *Pk.*

GEO. VASEY, M. D., Washington, D. C.

Æcidium Cressæ *DC.*

S. WATSON, Cambridge, Mass.

Peridermium decolorans *Pk.*

J. M. COULTER, Washington, D. C.

Puccinia Porteri *Pk.*
Peziza vulcanalis *Pk.*
Sphæria Coulteri *Pk.*

J. B. ELLIS, Newfield, N. J.

Paxillus flavidus *Berk.*
Boletus Russellii *Frost.*
Rœstelia transformans *Ellis.*
Hysterium rufescens *Schw.*

C. C. PARRY, M. D., Davenport, Iowa.

Æcidium Psoraleæ *Pk.*
Æ. Parryi *Pk.*
Dothidea Gramma *Schw.*

C. C. FROST, Brattleboro' Vt.

Boletus Frostii *Russell.*
B. Russellii *Frost.*
B. Spraguei *Frost.*
B. robustus *Frost.*
B. speciosus *Frost.*
B. miniato-olivaceus *Frost.*
B. pallidus *Frost.*
B. sordidus *Frost.*
B. chromapes *Frost.*
B. subchromeus *Frost.*
B. rubeus *Frost.*
B. Roxanæ *Frost.*
Boletus pictus *Pk.*
B. auriporous *Pk.*
B. flavidus *Fr.*
B. luteus *L.*
B. edulis *L.*
B. piperatus *Bull.*
B. felleus *Fr.*
B. collinitus *Fr.*
B. spadiceus *Fr.*
B. cyanescens *Bull.*
B. strobiliformis *Scop.*
Polyporus cæruleoporous *Pk.*

R. P. WHITFIELD, Albany, N. Y.

Trichomanes radicans *Swartz.*

E. L. HANKENSON, Newark, N. Y.

Polygonum Hartwrightii *Gr.*

Hon. H. SEYMOUR, Utica, N. Y.

Polyporus sulfureus *Fr.*
P. sanguineus *Fr.*
Polyporus Curtisii *Berk.*
Morchella esc. *v.* conica *Fr.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Antitrichia Californica *Sulliv.*
A. curtipendula *Brid.*
Leskea Austinii *Sulliv.*
Neckera Douglassii *Hook.*
Hypnum crispifolium *Hook.*
H. Oreganum *Sulliv.*
H. myosuroides *L.*
H. lutescens *Dill.*
Porphrydium cruentum *Ag.*
Agaricus cepæstipes *Sow.*
Lenzites striata *Sw.*
Merulius bellus *B. & C.*
Ditiola radicata *Fr.*
Trametes hydnoides *Fr.*
Polyporus sanguineus *L.*
P. incarnatus *Fr.*
P. Salviæ *B. & C.*
Phoma Syringæ *B. & C.*
Pestalozzia Mariæ *Clinton.*
Puccinia Veratri *Clinton.*
Ustilago Erythronii *Clinton.*
Uromyces Lilii *Clinton.*
Uredo Smilacis *Schw.*
Aecidium dubium *Clinton.*
Sporidesmium concinnum.
Cladosporium Typhæ *Schw.*
Hypomyces aurantius *Tul.*

(4.)

PLANTS FOUND GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

ACONITUM NAPELLUS *L.*

Along the upper waters of the Beaver Kill, Ulster county. *Rev. A. P. Van Gieson.*

The specimens show a loose paniculate inflorescence quite unlike the ordinary form seen in gardens. The flowers are few and on widely diverging slender branches, and the leaves are not as finely dissected as usual. The plants were found in a wild unsettled region far from any present habitation, though the Rev. Mr. Van Gieson writes me that many years ago, thirty to fifty, a family settled in this part of the valley of the stream. Though their stay was short, he suggests this settlement as a possible explanation to the introduction of the plant into this singular locality. Its modified character may perhaps be dué to the fact that it was left to run wild in a not very congenial locality. And yet it is a little remarkable that a plant rarely found with us "shifting for itself," should be so thoroughly naturalized in this remote spot. It is desirable that its history and character should be further investigated.

VERBENA BRACTEOSA *Mx.*

Waste grounds. West Troy. *P. A. Puissant.* Doubtless introduced from the west.

SOLIDAGO ELLIPTICA *Ait.*

Black Brook, Long Island. *H. W. Young.*

POLYGONUM HARTWRIGHTII *Gr.*

Newark. *E. L. Hankenson.* Bethlehem. If this species is rightly understood by me it is not rare on the Cayuga marshes, but is seldom found in flower. In the younger plants the spreading foliaceous tips of the sheaths are conspicuous.

EUPHORBIA CYPARISSIAS *L.*

Wading River. Long Island. *E. S. Miller.*

SCIRPUS OLNEYI *Gr.*

Salt marshes, Aquebogue and Wading River. *Young, Miller.*

CAREX STRIATA *Mx.*

Bogs near Riverhead, L. I. *Young.* The plant referred to this species in New York State Flora is believed to be *C. polymorpha* Muhl.

BOTRYCHIUM LUNARIA *Swartz.*

Near Syracuse. *E. W. Mundy.*

This is a very interesting addition to our list of ferns, and indicates the varied and comprehensive character of our flora. The single specimen sent by Mr. Mundy does not differ in any essential respect from specimens of this species received from the Lake Superior region, hitherto its only reported locality in this country. A specimen of Botrychium received from Mr. Cowles, and unhesitatingly considered the large form of *B. simplex* as described in Paine's Catalogue of Oneida County Plants, might, with almost equal propriety, be deemed a small form of this species. It would be remarkable if the two species should be found to run together.

BOTRYCHIUM MATRICARIÆFOLIUM *Braun.*

Deerfield, Oneida county. *E. Hunt.*

LYCOPODIUM SABINÆFOLIUM *Willd.*

Elevated marshes near Nipple Top and on the slope of Mt. Marcy.

This plant is regarded by some as a variety of *L. compla-*

natum, but our specimens are so very dissimilar to typical forms of that species that I am disposed at present to keep them distinct. The spikes in our specimens are sometimes sessile, sometimes on a short bracted peduncle, which is apparently produced by a slight elongation of the rachis, together with a failure of the thecæ to develop in the axils of the lower bracts or scales. The fertile branches are frequently longer than the sterile and sometimes less densely clothed with leaves. They are usually forked near the top, each branch bearing a single spike. There is no apparent tendency either in these or in the sterile branches to become flattened, as in *L. complanatum*.

THELIA LESCURII *Sulliv.*

Dry rocky soil. Port Jervis, Sullivan county. Sterile.

LESKEA AUSTINI *Sulliv.*

Trunks of trees. Saratoga. *Hon. G. W. Clinton.* Sterile.

HYPNUM OAKESII *Sulliv.*

Summit of Haystack Mt. This mountain stands next to Mt. Marcy on the east, and, though not as high as its more renowned neighbor, it afforded several species of plants not yet found on that lofty summit.

HYPNUM EXANNULATUM *Gumb.*

Wet places. Catskill and Adirondack Mts. Sterile.

In Hobkirk's Synopsis of British Mosses, this is given as synonymous with *H. aduncum* Dill., *H. aduncum* Hedw. being referred to *H. Kneiffii* B. & S.

HYPNUM CUPRESSIFORME *L.*

Port Jervis and Helderberg Mts. Sterile.

HYPNUM ACUTUM *Mitt.*

Wooded swamps. Sandlake. Rare. Oct.

SPHAGNŒCETIS HUBENERIANA *Rabh.*

Adirondack Mts. and Center.

JUNGERMANNIA ALBESCENS *Hook.*

Adirondack Mts.

JUNGERMANNIA VENTRICOSA *Dicks.*

Adirondack Mts.

SCAPANIA UNDULATA *N. & M.*
Water holes in marshy places. Adirondack Mts.

FRULLANIA OAKESIANA *Aust.*
Trunks of balsam trees. Adirondack Mts.

CETRARIA FAHLUNENSIS *Schær.*
Rocks. Mt. Colvin.

LECANORA BADIA *Fr.*
Rocks on the high summits of the Adirondacks.

CLADONIA DEFORMIS *Hoffm.*
Dry pastures. Indian Lake. Sterile.

CLADONIA PAPILLARIA *Hoffm.*
Summit of Skylight Mt. Also on the Catskills.

BÆOMYCES BYSSOIDES *Fr.*
Rocks along mountain streams. Adirondack Mts.

BIATORA MILLIARIA *Fr.*
High summits of the Adirondack Mts.

LECIDEA ARCTICA *Smf.*
Summit of Mt. Marcy ; incrusting mosses, etc. The specimens are imperfect, and, perhaps, entitled to some doubt.

LECIDEA DIAPENSIÆ *Th. Fr.*
Summit of Mt. Marcy, on Diapensia sods.

LECIDEA MELANCHEIMA *Tuck.*
Old fence rails. Sandlake.

PORPHRYDIUM CRUENTUM *Ag.*
Ground in a conservatory. Buffalo. *Clinton.*

AGARICUS CEPÆSTIPES *Sow.*
Greenhouse. Buffalo. *Clinton.*

AGARICUS (TRICHOLOMA) FUMOSOLUTEUS *n. sp.*
Pileus fleshy, convex or expanded, smooth, moist, smoky-yellow; lamellæ broad, close, rounded behind and deeply

emarginate, white; stem stout, smooth, hollow, white; spores subglobose, .00018′–.0002′ in diameter.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 4″–6″ thick.

Ground in woods. Forestburgh, Sullivan county. Sept.

When cut, the flesh has a farinaceous odor. The plant sometimes grows in tufts. In size and general character it is related to *A. virescens*.

AGARICUS ROSELLUS *Fr.*

Hemlock woods. Forestburgh. Sept.

AGARICUS (MYCENA) ATROALBOIDES *n. sp.*

Pileus campanulate, obtuse or subumbonate, striate on the margin; at first blackish-brown with a slight pruinosity, then fading to cinereous on the margin; lamellæ close, narrow ascending, uncinate with a decurrrent tooth, white or cinereous; stem long, smooth, equal, colored like the pileus, villous at the base; spores with a slight apiculus at one end, elliptical, .0003′ long.

Plant 3′–4′ high, pileus 4″–6″ broad, stem .5″–1″ thick.

Wet places among mosses in woods. Forestburgh. Sept.

The stem in the younger plants is darker toward the top.

The lamellæ are not free, and the stem is not thickened at the base as in *A. atroalbus*.

There is a slender variety in which the umbo becomes whitish in drying.

AGARICUS (MYCENA) CONSTANS *n. sp.*

Pileus submembranaceous, campanulate or convex, striate, pale-cinereous; lamellæ close, ascending, uncinate, white; stem slender, equal, smooth, colored like the pileus, with hairy filaments at the base; odor alkaline.

Plant about 2′ high, pileus 1″–3″ broad.

Among mosses in woods. Forestburgh. Sept.

In general appearance it bears some resemblance to small forms of *A. vulgaris*, but it is easily separated by its dry stem and its odor of hartshorn which is very distinct when the plant is first gathered.

AGARICUS (MYCENA) DELECTABILIS *n. sp.*

White; pileus thin, conical, subacute, striate; lamellæ close, arcuate-decurrent; stem slender, equal, smooth, with hairy filaments at the base; odor alkaline.

Locality, size and habitat as in the preceding species, from which it is separated by its white color, more conical pileus and decurrent lamellæ. (Plate 1, figs. 22–25.)

AGARICUS ACICULA *Schaeff.*

Damp places on leaves and twigs. Indian Lake. July.

AGARICUS GALOPUS *Schrad.*

Among fallen leaves in woods. Forestburgh. Sept.
Easily known by the milky juice of the stem.

AGARICUS (OMPHALIA) MONTANUS *n. sp.*

Blackish-brown; pileus thin, umbilicate, smooth; lamellæ distant, decurrent, the edge darker; stem equal, smooth.

Plant about 1′ high, pileus 6″–8″ broad.

Thin soil covering rocks. Summit of Mt. Marcy. Aug.

AGARICUS (OMPHALIA) RHODODENDRI *n. sp.*

White, slightly viscid when moist; pileus convex, glabrous, umbilicate, striate on the margin; lamellae arcuate-decurrent, rather close, beaded on the edge; stem slender, rough with minute white gland-like protuberances.

Plant 6″–8″ high, pileus 1″–2″ broad.

Dead trunks of *Rhododendron maximum.* Forestburgh. Sept. (Plate 2, figs 15–19.)

The peculiar roughness of the stem is a marked feature of this small species.

AGARICUS (PHOLIOTA) LUTEOFOLIUS *n. sp.*

Pileus firm, convex, dry, squamulose, fibrillose on the margin, pale red or yellowish; lamellæ broad, sub-distant, emarginate, serrate on the edge, yellow becoming bright-ferruginous; stem firm, fibrillose, solid, colored like the pileus, often curved from the place of growth; annulus obsolete; spores bright-ferruginous, .00028′ long, .00016′ broad.

Plant subcæspitose, 2′–3′ high, pileus 1′–2′ broad, stem 3″–5″ thick.

Trunks of birch trees. Forestburgh. Sept.

The general appearance of this plant is like *A. variegatus* or reddish forms of *A. multipunctus.* The reddish color appears sometimes to fade with age.

AGARICUS (HEBELOMA) INFIDUS *n. sp.*

Pileus firm, campanulate or expanded, subumbonate, slightly squamulose on the disk, often split on the margin, whitish, lamellæ close, pallid becoming cinnamon-brown; stem equal or slightly bulbous-thickened at the base, minutely furfuraceous, hollow, colored like the pileus; spores globose, rough with little nodules, .0003′ in diameter.

Plant about 2′ high, pileus 6″–12″ broad, stem 1″–2″ thick.

Mossy ground in swampy woods. Adirondack Mts. Sept.

This species bears some resemblance to *A. geophyllus*, but the slightly squamulose pileus and the rough spores readily separate it. The margin of the pileus is sometimes deeply split, the radiating lobes giving a stellate appearance to the pileus.

AGARICUS (HEBELOMA) FUSCODISCUS *n. sp.*

Pileus at first subviscid, conical, covered with blackish-brown fibrils, then campanulate or expanded, umbonate, whitish, the disk remaining blackish-brown; lamellæ close, whitish then brownish, minutely rough on the edge; stem equal, solid, whitish and pruinose at the top, elsewhere brownish, fibrillose; spores .00035′ long, .00018′ broad.

Plant 1′–3′ high, pileus 6″–12″ broad, stem 1″–2″ thick.

In an old pasture under trees. Forestburgh. Sept. (Plate 1, figs. 3–6.)

The somewhat viscid pellicle is separable. The odor resembles that of chestnut blossoms.

AGARICUS (HEBELOMA) FRAGILIOR *n. sp.*

Small, fragile, pale grayish ochre; pileus thin, convex, then expanded or centrally depressed, sometimes irregular or wavy on the margin, at first minutely squamulose lamellæ close, when young a little paler than the pileus, minutely eroded on the edge; stem slender, squamulose, hollow, often expanded at the base into a thin disk.

Plant about 1′ high, pileus 3″–6″ broad, stem scarcely 1″ thick.

Damp, decaying leaves in water holes of swamps. Indian Lake. July.

The minute scales of the pileus easily rub off and they disappear with age. They sometimes project from the margin in a fimbriate manner.

AGARICUS CHIMONOPHILUS *B. & Br.*

Vegetable mold or decaying wood lying on or half buried in damp earth Forestburgh. Sept.

Our plant does not fully agree with the description of the species under which we have placed it. The lamellæ are rounded behind, the spores are ferruginous-brown, and the pileus, which is often attached to the matrix by downy filaments, is frequently half an inch broad. Further investigation may require its separation.

COPRINUS AQUATILIS *n. sp.*

Pileus membranaceous, campanulate, sulcate-plicate almost to the apex, furfuraceous, yellowish-brown; lamellæ subdistant, reaching the stem, brownish then black; stem slender, equal, hollow, furfuraceous, whitish; spores .0005′ long, .0003′ broad.

Plant fragile, 2′–2.5′ high, pileus 6″–8″ broad.

Sticks and twigs partly submerged or lying in wet mossy places. Adirondack Mts. Aug. (Plate 1, figs. 26–28.)

The young plant is more yellow than the mature one. The species is related to *C. silvaticus*.

CORTINARIUS (HYGROCYBE) FUSCOVIOLACEUS *n. sp.*

Pileus convex, soon expanded or centrally depressed, umbonate, smooth, hygrophanus, chestnut-brown tinged with violet, the margin whitened by silky fibrils; lamellæ at first plane then ventricose, rounded behind, rather distant, dark-violaceous, becoming subcinnamon; stem flexuous, equal, solid, colored like the pileus, silky fibrillose.

Plant 1′–1.5′ high, pileus 6″–10″ broad.

Sphagnous marshes. Forestburgh. Sept.

HYGROPHORUS AURANTIACOLUTEUS *B. & C.*

Among Dicranum. Sandlake and Albany. Aug.

GOMPHIDIUS STILLATUS *Strauss.*

Low mossy ground in woods. Adirondack Mts Aug.

LACTARIUS ALPINUS *n. sp.*

Pileus fleshy, dry, umbilicate or centrally depressed, tomentose-squamulose, ochraceous or tawny-yellow; lamellæ close, yellowish-ochraceous; stem subequal, solid, whitish or pallid; milk white. unchangeable, taste acrid.

Plant about 2′ high, pileus 1′ broad, stem 2″–3″ thick.

Thin soil covering rocks. Summit of Haystack Mt., at an altitude of about 5,000 ft. Aug.

Only three specimens were found. I have seen no other Lactarius on the high summits of the Adirondacks.

MARASMIUS MINUTUS *n. sp.*

Pileus membranaceous, convex, glabrous, striate-sulcate, reddish-brown; lamellæ distant, subvenose, unequal, sometimes branched, white; stem capillary, smooth, shining, blackish-brown.

Plant scarcely 1′ high, pileus 1″–2″ broad.

Fallen leaves in woods and swamps. Catskill Mts. and Sandlake. July.

This is a very small species, easily overlooked. The color of the pileus approaches a vinous red.

MARASMIUS MINUTISSIMUS *n. sp.*

Very minute; pileus convex or expanded, pubescent, white, sometimes nodding; lamellæ few, vein-like, scarcely extending to the margin of the pileus; stem capillary, smooth or slightly hairy, blackish-brown, pellucid-white at the top.

Plant 1″–3″ high, the pileus scarcely broader than the head of a pin.

Fallen leaves in woods. Forestburgh. Sept. (Plate 2, figs. 27 and 28).

This is the smallest species known to me. It is remarkable for the pubescence of the pileus. In damp weather the plant appears as if glandular-pubescent, minute drops of moisture tipping the hairs. When young the stem is sometimes white nearly or quite to the base. The lamellæ are reduced to three or four vein-like elevations.

PANUS OPERCULATUS *B. & C.*

Dead branches of alders. Adirondack Mts. Aug.

POLYPORUS CUPULÆFORMIS. *B. & C.*

Dead branches. Poughkeepsie. *W. R. Gerard.*

POLYPORUS SQUAMOSUS *Fr.*

Trunk of an elm tree. Albany. May.

POLYPORUS SPUMEUS *Fr.*

Decaying trunks of trees. Adirondack Mts. Aug.

POLYPORUS VOLVATUS *n. sp.*

Subglobose, fleshy, firm, smooth, flattened behind and appearing sessile, but usually attached to the matrix by a small point, whitish, more or less tinged with yellow, red or reddish brown, the cuticle continuous, completely enveloping the hymenium like a coriaceous volva, at length rupturing below and revealing the hymenium; pores long, whitish, minute or punctiform, the mouths yellowish with a tinge of cinnamon; flesh white; spores elliptical, flesh-colored, .0003′–.00035′ long, about .0002′ broad.

Trunks of dead spruce trees, *Abies nigra*. Indian Lake. July. (Plate 2, figs. 3–6.)

This is a small species, rarely attaining a diameter of one inch, but very remarkable for the volva-like prolongation of the pileus around and below the pores. When this is ruptured, little heaps of spores are seen dotting its inner surface. So abundant are these and so protected from the air when they fall from the pores, that they sometimes accumulate in heaps whose altitude much exceeds the diameter. The volva does not lie close to the mouths of the pores but leaves an intervening space nearly as great as the distance from the mouths of the pores to the apex of the pileus. The length of the pores generally exceeds the thickness of the flesh of the pileus. The form of the plant with the volva-like portion cut away is nearly hemispherical. This interesting but rare and aberrant species is allied to the suberose *Placodermei*.

POLYPORUS NIGRICANS *Fr.*

Trunks of birch trees. Indian Lake. July.

POLYPORUS CONCHATUS *Fr.*

Trunks of ash trees. Indian Lake. July.

POLYPORUS PINICOLA *Fr.*

Trunks of dead pine trees. Croghan. Sept.

POLYPORUS VULGARIS *Fr.*

Decaying wood. Forestburgh. Sept.

POLYPORUS INCARNATUS *Fr.*

Decaying wood. Buffalo, *Clinton*. North Greenbush. Oct.

POLYPORUS SALVIÆ *B. & C.*

Decaying wood. Goat Island. *Clinton*.

TRAMETES ODORATUS *Fr.*

Old trunks of spruce trees Adirondack Mts.

MERULIUS PORINOIDES *Fr.*

Old pine stumps. Forestburgh. Sept.

MERULIUS BELLUS *B. & C.*

Decaying wood. Tonawanda. *Clinton.*

IRPEX LACTEUS *Fr.*

Dead branches and stumps of frondose trees. Forestburgh. Sept.

This is thought by some to be a variety of *Irpex sinuosus.*

STEREUM BALSAMEUM *n. sp.*

Orbicular or confluent, resupinate, rather thick and firm; slightly tawny-tomentose beneath; the margin free, thin, whitish; hymenium brown, uneven, sometimes concentrically zoned, stained dark red or purplish where bruised, the stains at length changing to black.

Bark of dead balsam trees, *Abies balsamea.* Adirondack Mts. Aug.

By the confluence of individuals patches several inches in diameter are sometimes formed. In the dried specimens the hymenium is more or less cracked.

STEREUM VERSIFORME *B. & C.*

Dead branches. Forestburgh. Sept.

CORTICIUM CALCEUM *Fr.*

Decaying wood and dead branches. North Greenbush. Oct.

CORTICIUM CREMORICOLOR *B. & C.*

Spruce wood. Indian Lake. July. The areolæ in our specimens are small but quite distinct.

CORTICIUM LILACINOFUSCUM *B. & C.*

Old fence posts. Greenbush.

CYPHELLA CANDIDA *n. sp.*

Cups scattered or gregarious, minute, obconic, nearly or quite sessile, externally tomentose, soft, white, sometimes deflexed.

Dead stems of ferns, *Osmunda cinnamomea.* Forestburgh. Sept.

CLAVARIA SPATHULATA *n. sp.*

Simple, pale yellow; club compressed, spatulate, tapering into the slender slightly furfuraceous stem.

Plant scarcely more than two lines high.

Dead branches of hickory trees, *Carya alba*. Greenbush. Oct. (Plate 2, figs. 20 and 21.)

The color is like that of *Spathularia flavida*.

TYPHULA GYRANS *Fr.*

Decaying leaves, twigs and stems in damp places. Sandlake, Portville, Forestburgh and Adirondack Mts. Aug. and Sept.

TYPHULA FILICINA *n. sp.*

White; club thickened, obovate or elliptical, obtuse, erect; stem rather stout, short, pubescent, usually slightly thickened toward the base, arising from a chestnut-colored sclerotium.

Plant 1″–2″ high.

Dead stems of ferns, *Osmunda cinnamomea*, in damp places. Forestburgh. Sept. (Plate 1, figs. 29 and 30.)

This is a smaller but comparatively stouter plant than the preceding, easily distinguished by its shorter club and stem.

TREMELLA ENATA *B. & C.*

Dead oak branches. Forestburgh. Sept.

TREMELLA STIPITATA *n. sp.*

Head small, tremelloid, subglobose or irregular, glabrous, more or less uneven with gyrose convolutions, yellow, often changing to orange or reddish-brown in drying; stem distinct, firm, dry, solid, nearly equal, yellow, often tinged with brown at the base, rarely throughout its whole extent, sometimes divided at the top into two branches, each bearing a head; spores subelliptical, with a slight oblique apiculus at one end, .00033′ long.

Plant 5′–10″ high.

Decaying wood in swamps. Forestburgh. Sept. (Plate 2, figs. 22 and 23.)

The texture of the stem is very unlike that of the head. The color of the stem generally fades to whitish or pallid in drying. The stem is sometimes slightly recurved at the top and appears to penetrate the receptacle as in the genus

Spathularia. Barren stems occur, obtusely pointed at the apex and destitute of a head. The species belongs to the subgenus Coryne, and seems to be related to *Coryne gyrocephala* B. & C., but its larger size and different color easily distinguish it. The changed color of the dried plants is readily restored by soaking in water.

DACRYMYCES FRAGIFORMIS *Nees.*

Decaying wood. Adirondack Mountains. August.

This plant retains its bright red color in the dried state. It produces an abundance of moniliform strings of conidia.

DITIOLA RADICATA *Fr.*

Decaying wood. Buffalo and Olean. *Clinton.* Forestburgh. Spring and Autumn.

RETICULARIA UMBRINA *Fr.*

Old logs in woods. Forestburgh. September.

The silvery hue of the peridium is conspicuous and beautiful.

DIDERMA UMBILICATUM *Pers.*

Decaying wood. Adirondack Mountains. August.

The specimens when collected were old and imperfect, but the very large columella leaves scarcely a doubt of the correctness of the determination.

PHOMA SYRINGÆ *B. & C.*

Bark of Syringa. Buffalo. *Clinton.*

Identified by comparison with specimens received from Dr. Curtis.

PHOMA ELLIPTICUM *n. sp.*

Perithecia at first covered by the epidermis, then free, scattered, elliptical, black; spores oblong-elliptical, colorless, with a small nucleus near each end, .00035′ long, .00016′ broad.

Dead stems of *Galium boreale.* West Albany. May.

The perithecia are rather large and when broken from the matrix leave a whitish spot surrounded by a black line.

SEPTORIA VERBENÆ *D. & R.*

Verbena leaves. Poughkeepsie. *Gerard.*

DISCOSIA MACULÆCOLA *Gerard.*

Living leaves of *Smilax rotundifolia.* Poughkeepsie. *Gerard.*

PESTALOZZIA MARIÆ *Clinton n. sp.*

Spots arid, brown or cinereous with a brown margin; pustules minute, scattered, erumpent, black; spores fusiform, five-septate, the four intermediate cells colored, a terminal cell and a long seta at each end hyaline, length of spore exclusive of the setæ .0007′–.001′.

Leaves of *Rhododendron maximum.* Buffalo. *Clinton.* Forestburgh. September. (Plate 2, figs. 1 and 2.)

This is apparently a rare species. In all the specimens that I have seen the spots are large and situated at the apex of the leaf. The epidermis is ruptured in a somewhat stellate manner. The peduncle sometimes remains adhering to the spore, thus giving the appearance of two setæ at one end.

CORYNEUM TRISEPTATUM *n. sp.*

Spots large, brown or cinereous; stroma obsolete; sori scattered, minute, erumpent, black; spores oblong-pyriform, .0006′–.0007′ long, at first colorless and biseptate, then triseptate with one apical and two basal cells hyaline, the remaining cell broad and colored; peduncle about as long as the spore, easily separating.

Living leaves of *Rhododendron maximum.* Forestburgh. September.

I am not acquainted with *Coryneum Rhododendri* Schw. which also inhabits Rhododendron leaves, but judging from the description it must be distinct from our plant for it is said to have thick septate pedicels and no mention is made of the most remarkable feature of the spores, the broad colored central cell, sharply contrasted with the two hyaline cells below it and the single one above it.

SPILOCÆA CONCENTRICA *Schw.*

Decaying squashes. Albany. November.

HELICOSPORIUM OLIVACEUM *n. sp.*

Flocci black, subulate, simple, septate, the articulations several times longer than broad; spores slender, coiled, simple or obscurely septate, olivaceous.

Hemlock wood. North Greenbush. October.

It forms thin olivaceous patches. Closely related to *H. vegetum*, from which the long articulations of the flocci and the obscurely septate or simple spores seem to separate it.

HELICOSPORIUM ELLIPTICUM *n. sp.*

Tufts elliptical or oblong, sometimes confluent or effused, greenish-brown or brown; flocci intricately and somewhat reticulately branched, colored, septate, the articulations three to five times as long as broad; spores very long, closely coiled in about eight volutions, forming ellipsoid masses, greenish-yellow, containing many nuclei.

With the last, than which it is much darker colored. The flocci appear to anastomose as in the capillitium of *Stemonitis*. The spores are not distinctly septate. (Plate 2, figs. 9–12.)

SPORIDESMIUM CONCINNUM *B. & C.*

Decaying wood. Buffalo. September. *Clinton.*

PUCCINIA VERATRI *Clinton n. sp.*

Spots indefinite, yellowish; sori scattered, small, brown; spores elliptical, often irregular, constricted in the middle, easily separating at the septum, pale, .001′ long, .00065′ broad; peduncle very short.

Lower surface of leaves of *Veratrum viride.* Buffalo. July. *Clinton.* (Plate 2, figs. 13 and 14.)

Under slight pressure the spore readily separates into two parts as in *P. Lobeliæ.*

UROMYCES LILII *Clinton n. sp.*

Sori amphigenous, small, scattered, surrounded or partly covered by the ruptured epidermis, brown; spores obovate, rough, .0011′–.0015′ long, .0008′–.001′ broad; often with a slight apiculus at the apex; peduncle very short.

Leaves of *Lilium Canadense.* Buffalo. July. *Clinton.*

The roughness of the spore appears to be produced by little pits or depressions. The species is related to *U. apiculosa* and *U. Euphorbiæ.*

UROMYCES PHASEOLI *Strauss.*

Leaves of Phaseolus. Yonkers. *Dr. E. C. Howe.*

I have seen no description of this species and have determined the specimens by comparison with those received from Dr. Curtis under the above name.

USTILAGO SYNTHERISMÆ *Schw.*

In the sheaths of *Cenchrus tribuloides.* Center and Port Jervis. September.

It seems to prevent the development of the annoying spikes of spiny involucres of the grass. If this be really the case the fungus ought to be classed among the useful species.

UREDO SMILACIS *Schw.*

Leaves of *Lilium Canadense.* Buffalo. August. *Clinton.*

UREDO EMPETRI *D. C.*

Leaves of the crowberry, *Empetrum nigrum.* Summit of Haystack Mountain. August.

ÆCIDIUM NESÆÆ *Gerard.*

Stems and leaves of *Nesæa verticillata.* Poughkeepsie. *Gerard.* Buffalo. *Clinton.*

ÆCIDIUM DUBIUM *Clinton. n. sp.*

Spots scattered, suborbicular, yellow or purplish; peridia small, subcircinating, crowded; spores yellow.

Lower surface of leaves of Calystegia. Squaw Island. June. *Clinton.*

Very near *Æ. Compositarum*, and in the dried state scarcely to be distinguished from that species except by the habitat.

PERIDERMIUM ELATINUM *Lk.* (*Æcidium elatinum* A. & S.)

Living leaves of balsam trees, *Abies balsamea.* Indian Lake. July. The leaves attacked by this fungus scarcely exceed half the usual size.

PERIDERMIUM BALSAMEUM *n. sp.*

Spots indefinite, whitish or pale yellow; peridia subrotund, slightly elevated, generally arranged in two rows, at first entire, then lacerated at the apex; spores subglobose, rough, white, about .001′ in diameter.

Lower surface of balsam leaves. Adirondack Mountains. August. (Plate 2, figs. 24–26.)

The affected leaves attain the usual size, but, by their pale color, contrast beautifully with the healthy ones, and give the foliage a variegated appearance. The fungus was observed on young trees only.

PERIDERMIUM DECOLORANS *n. sp.*

Spots indefinite, yellow, generally discoloring the whole leaf; peridia subrotund or oblong, pustulate, at length rup-

tured and lacerated at the apex, white; spores large, subglobose, rough, with a thick epispore, yellow, about .0015′ in diameter.

Leaves of spruce trees, *Abies nigra*. Adirondack Mountains. August. (Plate 1, figs. 19–21.)

I found this species very abundant on the low starved spruces of the high summits and cold sphagnous marshes of the Adirondack Mountains, attacking and discoloring the foliage to such an extent as to give the trees a yellowish hue even when seen at a distance. Minute brown or blackish dots, probably the spermogonia of the fungus, are scattered upon the affected leaves.

PTERULA SETOSA *n. sp.*

Simple or branched, setose, about one-fourth of an inch high, whitish or straw-colored with whitish tips, the branches slightly diverging, clothed above with widely diverging hair-like filaments; spores elliptical or subglobose, .00016′–.0002′ long.

Decaying *Polyporus elegans*. Adirondack Mts. Aug.

The plants grow rather thickly upon the matrix, and are in appearance suggestive of prickles upon a burr

CLADOSPORIUM LIGNICOLA *Cd.*

Birch chips. Indian Lake. July.

CLADOSPORIUM TYPHÆ *Schw.*

Dead leaves of *Typha latifolia*. Buffalo. *Clinton.*

This appears to differ from *C. Herbarum* in habit.

OIDIUM CORTICALE *n. sp.*

Tufts minute, orbicular, convex, at first compact and bluish-brown, then more lax and paler or cinereous; flocci few, nodose; spores small, colored, subglobose or subangular, .00016′ in diameter, joined together in moniliform strings.

Old bark. North Greenbush. Oct. (Plate 2, figs. 7 and 8.)

The strings of spores do not so readily break up into distinct spores as in most other species.

FUSIDIUM FLAVOVIRENS *Fr.*

Fallen leaves. Albany. Oct,

MONILIA CANDIDA *n. sp.*

Flocci scattered, erect, simple, septate, pellucid; heads of spores rather compact, subglobose, erect, white; spores subglobose, .00025′–.0003′ in diameter.

Decaying fungi. Forestburgh. Sept.

PILOBOLUS CRYSTALLINUS *Tode.*

Horse dung. Bethlehem. September.

The spores in our specimens are about .0005′ in diameter.

CHÆTOMIUM MELIOLOIDES *C. & P.*

Scattered, minute; conceptacles brown, globose, springing from a septate branched mycelium, hairs dark-brown, rather rigid, two to three times dichotomously branched above, branches divaricately spreading; spores ovate or subglobose, pale-brown, .00018′ in diameter.

Old stems of Indian corn. North Greenbush. October.

Similar to *C. funicolum*, but with the hairs more branched, the branches more spreading, and the spores equal in size. Externally it resembles a *Meliola*.

HELVELLA SPHÆROSPORA *n. sp.*

Pileus large, irregular, ochraceous, the margin free, somewhat veiny and minutely tomentose beneath; stem stout, deeply lacunose, smooth or with a minute appressed tomentum, white; asci cylindrical; spores globose, .00035′–.0004′ in diameter.

Plant 3′–4′ high, pileus 3′–4′ broad, stem 1′–2′ thick.

Old stumps in woods. Indian Lake. July.

In the dried specimens the pileus becomes darker, so that the colors resemble those of *H. esculenta*, but the true relationship is with *H. costata*. The globose spores are peculiar and suggest the specific name.

MITRULA CUCULLATA *Fr.*

Fallen leaves of spruce trees. Forestburgh. September.

This rare and interesting little plant has been placed by various authors in the genera Helvella, Leotia, Heyderia, Geoglossum and Mitrula. The head is either ovate or conical, and in large specimens is slightly wrinkled or uneven. It is whitish, pale-yellow or cream colored when fresh, but changes to a subferruginous or cinnamon hue in the dried specimens.

MITRULA INFLATA *Schw.*

Decaying wood and bark of trees. Catskill Mts. and Worcester. July and August.

I have never found this plant fertile.

PEZIZA ADUSTA *C. & P.*

Gregarious or scattered; cups subglobose, then open and hemispherical, at length flattened, one line broad, somewhat irregular when dry, brown externally, with a few radiating white filaments at the base; disk amber-colored or yellowish, darker when dry, nearly plane or slightly concave; asci cylindrical; spores elliptical, binucleate, .0007′ long, .0003′ broad; paraphyses clavate, brownish.

Burnt ground under pine trees. West Albany. July.

PEZIZA SUBCARNEA *C. & P.*

Scattered, stipitate, small; cups at first clavate then infundibuliform, wholly flesh-colored; stem long, attenuated at the base, expanded above into the cup; margin contracted, paler; asci cylindrical; spores linear, obtuse, hyaline.

Dead liverworts on old logs in woods. Indian Lake. July.

The liverworts die in suborbicular patches which are sometimes several inches in diameter. On these patches of dead plants the fungus grows. The inference is that the fungus causes the death of the liverwort. The species is closely allied to *P. pyriformis.*

ASCOBOLUS PILOSUS *Fr.*

Dung of deer. Adirondack Mts. August.

HELOTIUM ACICULARE *Fr.*

Decaying half-buried wood. Adirondack Mts. August.

HELOTIUM FASTIDIOSUM *n. sp.*

Cups small, convex or plane, stipitate, pale yellow or whitish; stem slender, about equal in length to the diameter of the cups, brownish or yellow with a brownish base; asci narrowly clavate; spores crowded or biseriate, elongated, subclavate, multinucleate, .001′ long, about .0002′ broad, sometimes slightly curved.

Petioles and midribs of fallen alder leaves in wet places. Forestburgh. September.

The long spores are narrowed toward one end, and have a shape very similar to that of the asci that contain them. I have never found it growing on the blade of the leaf.

TYMPANIS FRAXINI *Schw.*

Dead branches of ash trees. Forestburgh. September.

HYSTERIUM TUMIDA *Duby.*

Fallen leaves of beech trees. Croghan. September.

HYSTERIUM XYLOMOIDES *Chev.*

Fallen maple leaves. Croghan. September.

HYSTERIUM RHODODENDRI *Schw.*

Leaves of *Rhododendron maximum.* Forestburgh. Sept.

RHYTISMA MONOGRAMMA *B. & C.*

Living leaves of grape vines. Port Jervis. September.

I have seen no description of this species, and depend upon a comparison of our plant with authenticated specimens for its identification.

TORRUBIA ENTOMORRHIZA *Fr.*

Dead larvæ imbedded in decaying wood or leaves in woods. Adirondack Mts. August

The head in our specimens is yellow when fresh.

EPICHLOE HYPOXYLON *n. sp.*

Convex or pulvinate, subconfluent, blackish externally, white within, seated on a whitish or gray subiculum; ostiola prominent; asci very long, linear; spores elongated, filiform, multinucleate, colorless.

Living stems of grass. Sandlake. July.

In shape and color this plant is suggestive of the genus Hypoxylon, but its habitat and spores point to Epichloe.

HYPOMYCES AURANTIUS *Tul.*

Decaying fungi. Buffalo. *Clinton.*

NECTRIA EPISPHÆRIA *Fr.*

On *Diatrype stigma* and allied fungi. Forestburgh. Sept.

DOTHIDEA TETRASPORA *Fr.*

Dead stems of *Iva frutescens.* Yonkers. *Howe.*

DOTHIDEA DALIBARDÆ *n. sp.*

Spots small, scattered, suborbicular, reddish-brown; stroma central, uneven, prominent on both surfaces, black; ostiola obscure; asci clavate; spores crowded, simple, subfusiform, nearly colorless, .0005′–.0006′ long.

Living leaves of *Dalibarda repens*. Forestburgh. Sept. (Plate 1, figs. 7–9).

DIATRYPE PLATASCA *n. sp.*

Stroma suborbicular, rather small, erumpent, black; ostiola long, slender, often slightly curved, cylindrical; asci oblong or subfusiform, very broad; spores crowded, colorless, oblong, uniseptate, quadrinucleate, .0005′–.0006′ long.

Dead birch branches. Adirondack Mts. August.

The long slender ostiola and very broad asci are characteristic features of this species. It seems to be related to *D. incarcerata*.

DIATRYPE CORNICULATA *Ehrh.*

Dead bark of ash trees. Sandlake. August.

VALSA IMPULSA *C. & P.*

Erumpent; stroma suberose, formed from the bark; perithecia eight to twelve, clustered, globose, black; ostiola long, smooth, black; asci cylindrical; spores fusiform, uniseptate, hyaline, each cell binucleate, .0008′ long, .0003′ broad.

Dead branches of mountain ash. Adirondack Mts. August.

VALSA SUBCLYPEATA *C. & P.*

Perithecia three or four together, forming pustules beneath the elevated black shining epidermis which is at length lacerated, the torn edge becoming whitish; ostiola convergent, just piercing the ruptured epidermis; asci narrowly fusiform; spores linear, minute, rounded at the ends, slightly curved, hyaline.

Dead branches of oak and Rhododendron. Forestburgh. Sept.

VALSA PECKII *Howe.*

Perithecia numerous, crowded together, sunk in the wood; ostiola subcylindrical, obtuse, crowded, erumpent, black,

sometimes involved in a gray tomentum ; asci linear ; spores oblong-elliptical, colored, uniseriate, uniseptate, .0005′–.0006′ long.

Dead branches of *Vaccinium corymbosum*. Forestburgh. September. Also on branches of *Kalmia latifolia*. *J. B. Ellis*. (Plate 1, figs. 15–18).

The young spores are pale and simple, containing one or more nuclei, but they soon become colored and uniseptate.

LOPHIOSTOMA SEXNUCLEATA *Cooke.*

Dead stems of grape vines. North Greenbush. October.

The perithecia in our specimens are closely placed and the spores are smaller than in the type, being .001′–.0012′ long, but I have not thought best to separate our plant as a distinct species.

SPHÆRIA THUJINA *n. sp.*

Perithecia scattered, nearly free, hemispherical or conical, slightly rugulose, thin, fragile ; ostiola at first slightly papillate then pertuse ; spores large, uniseptate, oblong-elliptical, constricted at the septum, colored, .0015′–.0018′ long.

Decaying wood of *Thuja occidentalis*. Adirondack Mts. Aug.

SPHÆRIA PILIFERA *Fr.*

Decaying wood. Buffalo. *Clinton*.

The specimens are sterile but appear to belong here. I have seen no description of the fruit of this species and conclude that it is rarely fertile.

SPHÆRIA LAGENARIA *Pers.*

On the hymenium of some old Polyporus. Adirondack Mountains. August.

I find no account of the spores of this species and therefore subjoin the following description of the fruit of our specimens.

Asci very broad, delicate, fugacious ; spores crowded, simple, elliptical, colored, .0005′ long, .0003′ broad.

This is, apparently, a rare species with us. The spores are sometimes found adhering, in a mass, to the apex of the long slender ostiolum. The subicular tomentum is present in some of the specimens and there is sometimes a hairy appearance to the perithecia which seems to be due to this tomentum or to some minute mucedinous growth.

SPHÆRIA ORTHOGRAMMA *B. & C.*

Old stems of Indian corn. North Greenbush. Oct. Sterile.

SPHÆRIA PARNASSIÆ *n. sp.*

Perithecia scattered, convex or sub-hemispherical, prominent, pierced, black; asci cylindrical; spores long, narrow, uniseptate, generally constricted at the septum, often slightly curved, colored, .0015′–.0016′ long, with one or two nuclei in each cell.

Dead stems of *Parnassia Caroliniana.* Albany. Sept.

SPHÆRIA ARCEUTHOBII *n. sp.*

Perithecia small, densely cæspitose, oblong or cylindrical, very obtuse, shining, black; asci subclavate, fugacious; spores crowded, globose, colorless, .00016′ in diameter.

Capsules of *Arceuthobiam pusillum.* Forestburgh. Sept. (Plate 1, figs. 10–14.)

It forms little black tufts, crowning the fruit at the tips of the stems and branches. I have not seen it on the staminate plant. I am not fully satisfied that the generic reference is correct, as the perithecia seem to be mouthless. It is interesting to observe the extent to which parasitism prevails. The Arceuthobium is a parasite on the spruce, this fungus is parasitic on the Arceuthobium, and in a few instances a third parasite, a minute white mold, was seen on the perithecia of the fungus

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NEW STATIONS OF RARE PLANTS—REMARKS AND OBSERVATIONS.

PTELEA TRIFOLIATA *L.*

Wading River, L. I. *Miller.*

SAMBUCUS PUBENS *Mx.*

The variety with dissected leaves occurs in the town of Indian Lake.

SOLIDAGO CÆSIA *L.*

Mr. Young finds on Long Island a variety with white flowers.

NABALUS BOOTTII *DC.*

I am not aware that this species has been found anywhere on the Adirondack Mts., except on the summit of Whiteface, and I greatly fear it will soon be exhausted or trodden out from this station which is now so frequently visited by tourists and others. Its near ally, *N. nanus*, occurs everywhere on the higher summits and slopes of these mountains.

DIPLOPAPPUS UMBELLATUS *T. & G.*

Among the Adirondacks this plant is greatly reduced in size and frequently bears no more than six to ten heads of flowers. But notwithstanding the elevation and coolness of the locality it is in flower there by the middle of August.

RHODODENDRON MAXIMUM *L.*

Near Chapel Pond, Essex county. *O. S. Phelps.* It is also very abundant in Forestburgh, Sullivan county, where it forms dense and almost impenetrable thickets.

CAMPANULA ROTUNDIFOLIA *L.*

This plant manifests a tendency to sport. Small flowerless specimens collected near Port Jervis have the rounded leaves on the upper part of the stem, the linear leaves being below them.

RHINANTHUS CRISTA-GALLI *L.*

Summit of Haystack Mt. It is interesting to note that in this locality as well as in the neighboring one on Mt. Marcy this plant occupies the southern inclination of the exposed summit, where it is in a measure protected from the bleak northwesterly winds. It was not found on Skylight, whose broad open summit gave promise of a fine botanical field. Perhaps the very broad and nearly flat summit of this mountain does not afford a sufficiently protected southern inclination for it.

POLYGONUM CAREYI *Olney.*

Long Pond, Wading River. *Young.*

ARCEUTHOBIUM PUSILLUM *Pk.*

Forestburgh. It is more abundant there than in the Sandlake locality. In one instance it was growing in great profusion on an unusually thrifty-looking tree, just as if the luxuriance of the parasite was in proportion to that of its host. Both staminate and pistillate plants were occasionally seen on the same tree, but I have not yet found them intermingled on the same branch. The pistillate plants seem to be the most numerous.

ABIES NIGRA *Poir.*

This tree extends to the summits of all the high peaks of the Adirondacks, but in the most elevated situations it generally assumes the appearance of a low, half-prostrate bush, the branches sometimes spreading laterally as in the dwarf yew, and the leaves are frequently glaucous. In less elevated situations where the trees are thrifty the glaucous-leaved variety, in the absence of the cones, might easily be mistaken for the white spruce.

LARIX AMERICANA *Mx.*

Variety *pendula* occurs near "Griffin's Place," Indian Lake. A small shrubby form grows near the summit of Haystack Mt., which is probably the highest altitude attained by this tree in the State. It is there in company with *Abies nigra*, *A. balsamea*, *Juniperus communis* and *Thuja occidentalis*,—more coniferous trees than I have seen on any of the other high summits of the Adirondacks.

ZYGADENUS GLAUCUS *Nutt.*

Lodi swamp near Syracuse, in company with *Tofieldia glutinosa*. *Rev. H. Wibbe.*

JUNCUS STYGIUS *L.*

Marshy borders of a lake, Adirondack Mts. The only locality in the State hitherto reported for this rare species is Perch Lake, Jefferson county, and this I infer from the remarks in Paine's Catalogue of Oneida County Plants, is either destroyed or exhausted. Though the newly discovered locality is a remote one, seldom visited by botanists, I hesitate, for prudential reasons, to designate it more definitely.

COMMELYNA VIRGINICA *L.*

Fishkill, where it is apparently a stray from cultivation.

CAREX SCIRPOIDEA *Mx.*

This, and *Abies nigra*, should be added to the list of flowering plants found on the summit of Mt. Marcy.

CAREX SILICEA *Olney.*

Sandy shores near Sag Harbor.

CAREX FŒNEA *Willd.*

Suffolk county. *Young.*

SPOROBOLUS SEROTINUS *Gr.*

Near the Old Adirondack Iron Works. Essex county.

EQUISETUM SCIRPOIDES *Mx.*

Shaded ravines. Adirondack Mts.

SPHAGNUM NEGLECTUM *Angst.*

Marshes between Nipple Top and Mt. Colvin.

Dr. Braithwaite considers this as synonymous with *S. laricinum* Spruce, and as it is somewhat doubtful if either is more than a variety of *S. subsecundum* I forbear reporting it as a species to be added to our flora.

STEREOCAULON CONDENSATUM *Laur.*

A variety of this occurs on the high summits of the Adirondacks.

AGARICUS CAMPANELLA V. BADIPUS *Eng. Fl.*

Ground in pine woods. West Albany. Oct.

AGARICUS FIBULOIDES *Pk.*

Burnt ground. Forestburgh. Sept.

AGARICUS STRICTIOR *Pk.*

A variety of this species occurs in sphagnous marshes in Forestburgh. The stem is less straight and more fragile than usual, and the pileus is somewhat concentrically zoned when moist.

CORTINARIUS ASPER *Pk.*

This plant sometimes grows in tufts or clusters and bears a very close resemblance to *Agaricus melleus*, both in color and in the character of the scales of the pileus.

LACTARIUS GLYCIOSMUS *Fr.*

Abundant under pine trees in Forestburgh, where it generally has the pileus of a lurid-brown color.

POLYPORUS SULFUREUS *Fr.*

An unusually large and intricately confluent mass of this fine and edible species was found growing on the trunk of a cherry tree in Deerfield by *Hon. Horatio Seymour*. A part of the specimen was presented to, and is preserved in, the State Herbarium. He has also contributed specimens of *Helvella esculenta* var. *conica* Fr., which grew in considerable abundance on his grounds in Deerfield.

USTILAGO UTRICULOSA *Tul.*

A form of this species was found in Forestburgh, having the spores rather larger than usual and their reticulations smaller and less distinct. It inhabits *Polygonum sagittatum*. Nine species of this genus are now known to occur in the State. They are injurious to the plants they attack and are worthy of careful study. To facilitate the identification of the species, the following analytical synopsis and list of host plants is subjoined :

a. Spores produced in the leaves only	b.
a. Spores produced in the flowers, fruit or ovaries	c.
b. Spores produced in suborbicular swellings or blotches	Erythronii.
b. Spores produced in long lines	longissima.
c. Spores intensely black in the mass	d.
c. Spores black, generally tinged with brown	e.
c. Spores black, tinged with purple	utriculosa.
d. Inhabiting Juncus	Junci.
d. Inhabiting Carex	urceolorum.
e. Place of spore formation, much swollen or distended	Maydis.
e. Place of spore formation, not much swollen	f.
f. Generally affecting but few of the ovaries	Montagnei.
f. Generally affecting whole spikes or panicles	g.
g. Spores smooth, .0002 inch in diameter	Carbo.
g. Spores rough, .0004 inch in diameter	Syntherismæ.

Ustilago	Erythronii *Clinton.*	Inhabits	Erythronium Americanum *Sm.*
U.	longissima *Tul.*	"	Glyceria aquatica *Sm.*
U.	utriculosa *Tul.*	"	Polygonum (several species).
U.	Junci *Schw.*	"	Juncus tenuis *Willd.*
U.	urceolorum *Tul.*	"	Carex (several species).
U.	Maydis *Cd.*	"	Zea Mays *L.*
U.	Montagnei *Tul.*	"	Rhynchospora alba *Vahl.*
U.	Carbo *Tul.*	"	Avena sativa *L.* Triticum vulgare *Vill.*, etc.
U.	Syntherismæ *Schw.*	"	Cenchrus tribuloides *L.*

I have seen *U. utriculosa* on *Polygonum Pennsylvanicum* and *P. sagittatum*. In Europe it occurs on other species.

U. urceolorum is found with us on *Carex Pennsylvanica* and *C. umbellata*. In Europe it attacks other species. *U. Maydis* Cd. is the same as *U. Zeæ* Schw., and *U. Carbo* Tul. equals *U. segetum* Ditm. *U. Syntherismæ* is said to occur also on Digitaria and Andropogon.

In closing this report, grateful acknowledgments are rendered to C. F. Austin, Esq., for aid in the determination of Hepaticæ, and to H. Willey, Esq., for aid in the determination of lichens, and to all the botanists whose names appear in the preceding pages, for their kind coöperation in the investiga-

tion of our flora, and for their generous contributions of specimens.

When no name is added to the station or stations herein given, the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted,

CHAS. H. PECK.

ALBANY, *January* 6, 1874.

PLATES AND EXPLANATIONS.

EXPLANATION OF PLATE I.

Ustilago Erythronii Clinton.

Page 115.

Fig. 1. A leaf of *Erythronium Americanum* bearing the Ustilago.
" 2. Two spores magnified 400 diameters.

Agaricus (Hebeloma) fuscodiscus Pecl.

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Fig. 3. A young plant.
" 4. Three plants of ordinary size.
" 5. Vertical section of a pileus.
" 6. Four spores x 400.

Dothidea Dalibardæ Peck.

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Fig. 7. A leaf of *Dalibarda repens* bearing the Dothidea.
" 8. An ascus containing spores x 400.
" 9. Three spores x 400.

Sphæria Arceuthobii Peck.

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Fig. 10. A plant of *Arceuthobium pusillum* bearing three tufts of the Sphæria.
" 11. A capsule bearing a tuft of the Sphæria, magnified.
" 12. Two perithecia more highly magnified.
" 13. An ascus containing young spores x 400.
" 14. Four mature spores x 400.

Valsa Peckii Howe.

Page 100.

Fig. 15. A piece of wood of *Vaccinium corymbosum* bearing clusters of the Valsa
" 16. A vertical section of a cluster and the surrounding wood magnified.
" 17. An ascus containing spores x 400.
" 18. Five spores, three of them immature, x 400

Peridermium decolorans Peck.

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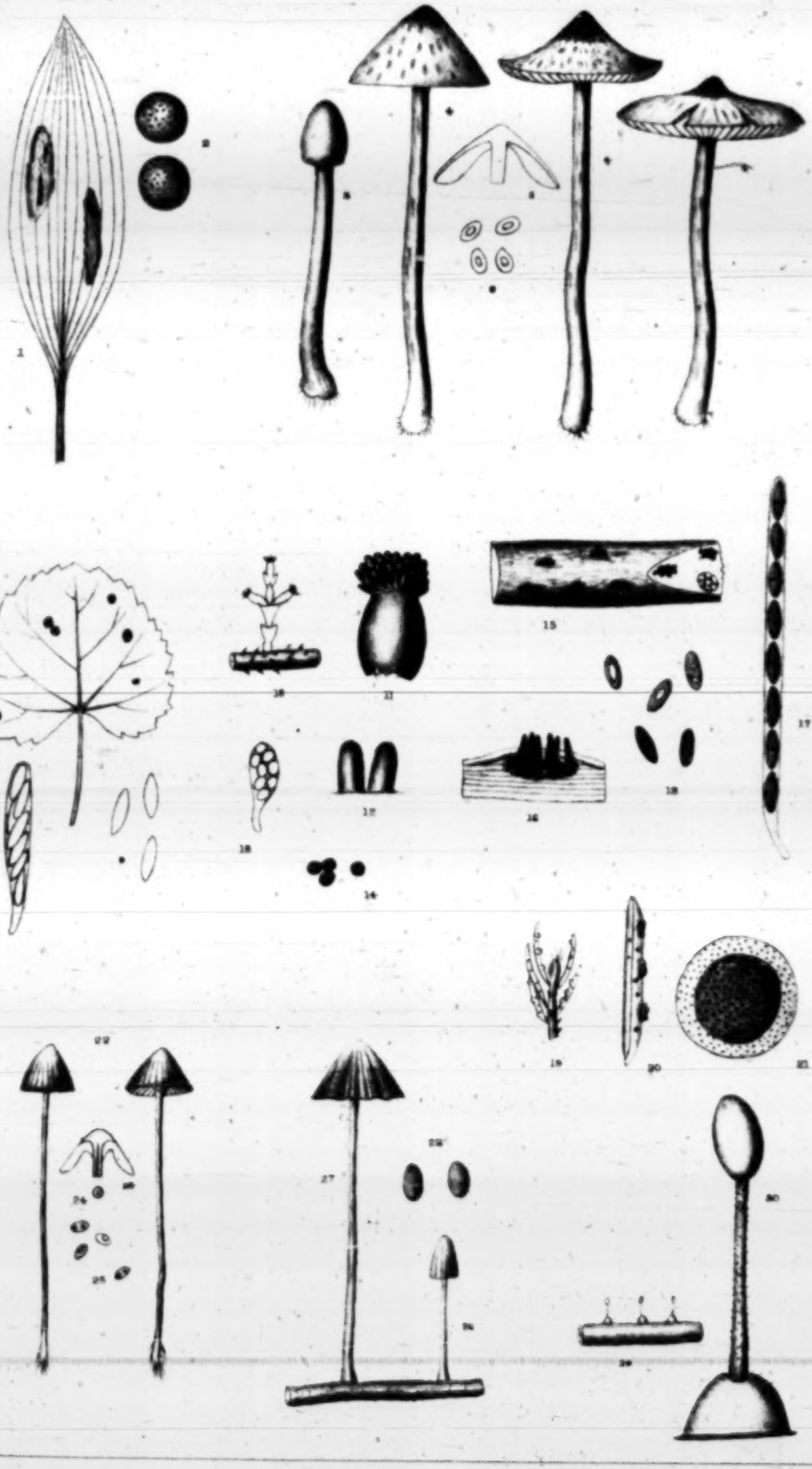
Fig. 19. Tip of a branch of *Abies nigra*, its leaves bearing the Peridermium
" 20. A leaf bearing three peridia, slightly magnified.
" 21. A spore x 400.

FUNGI.



Lith. of Weed Parsons & Co. Albany N.Y.

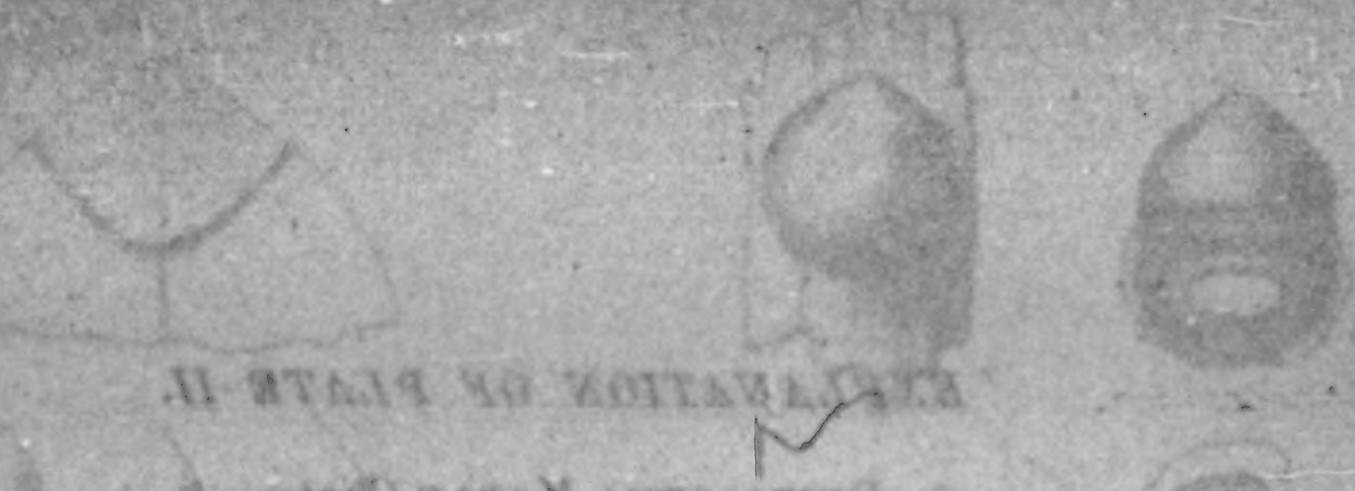


PLATE I.—(*Continued.*)

AGARICUS (*MYCENA*) *DELECTABILIS Peck.*

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FIG. 22. Two plants of ordinary size.
" 23. Vertical section of a pileus.
" 24. Transverse section of a stem.
" 25. Four spores x 400.

COPRINUS AQUATILIS Peck.

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FIG. 26. A young plant.
" 27. A mature plant.
" 28. Two spores x 400.

TYPHULA FILICINA Peck.

Page 100.

FIG. 29. A piece of a fern stem bearing three plants.
" 30. A plant magnified.

EXPLANATION OF PLATE II.

Pestalozzia Mariæ Clinton.

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Fig. 1. Apical part of a leaf of *Rhododendron maximum* bearing the Pestalozzia.
" 2. Three spores, one with the peduncle attached, x 400.

Polyporus volvatus Peck.

Page 98.

Fig. 3. A plant attached to a piece of wood.
" 4. A plant with the centrally ruptured volva cut loose from the anterior portion of the pileus and pendent, revealing the pores.
" 5. Vertical section of a plant with heaps of spores on the inner surface of the ruptured volva.
" 6. Four spores x 400.

Oidium corticale Peck.

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Fig. 7. A piece of bark bearing tufts of the Oidium.
" 8. Flocci and spores x 400.

Helicosporium ellipticum Peck.

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Fig. 9. A piece of wood bearing tufts of the Helicosporium.
" 10. Anastomosing flocci x 400.
" 11. A coiled spore, lateral view, x 400.
" 12. A coiled spore, vertical view, x 400.

Puccinia Veratri Clinton.

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Fig. 13. Apical part of a leaf of *Veratrum viride* bearing the Puccinia.
" 14. Two spores x 400.

Agaricus (Omphalia) Rhododendri Peck.

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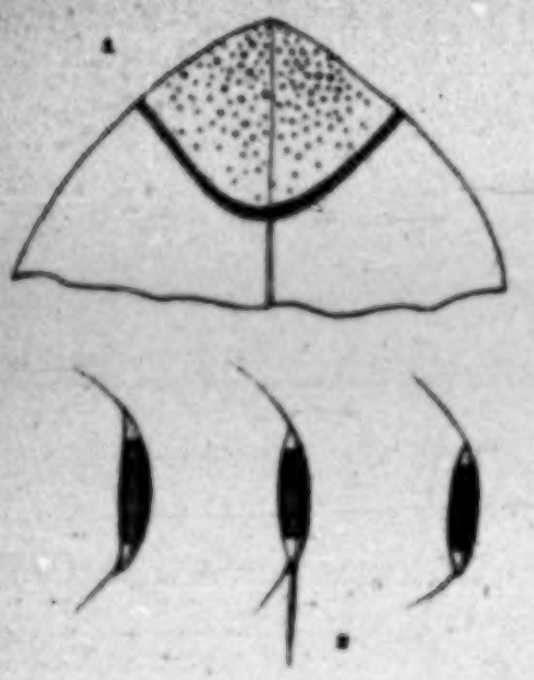
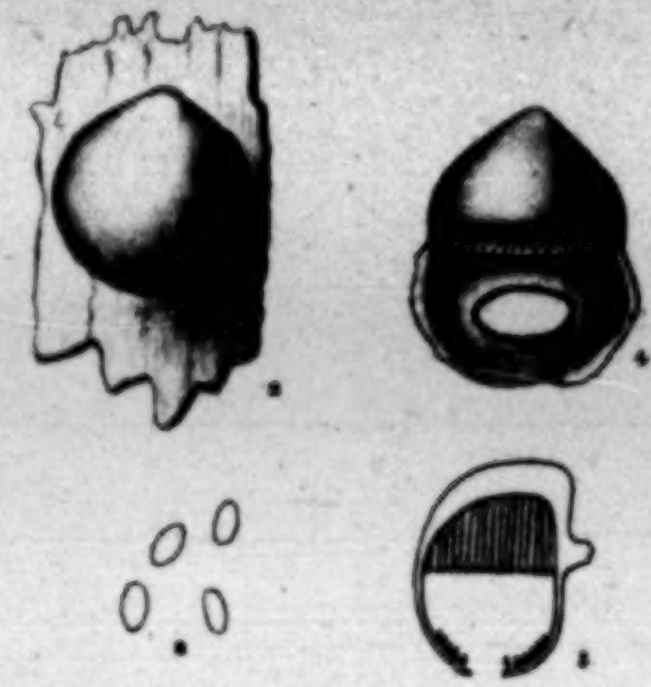
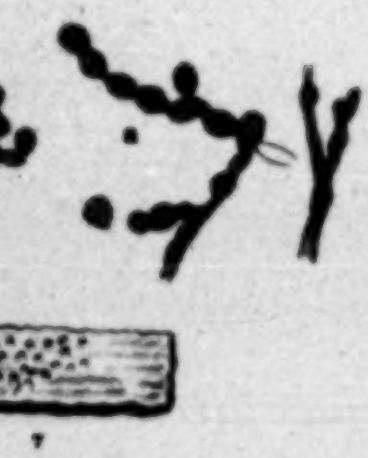
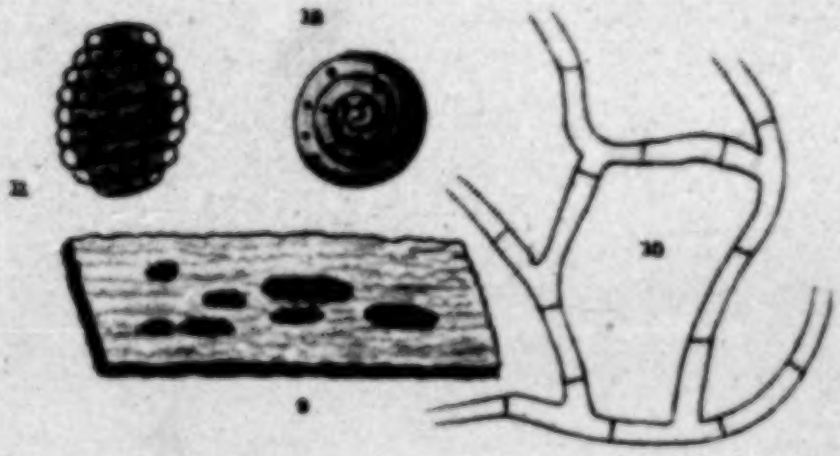
Fig. 15. Two plants attached to a piece of bark.
" 16. A plant magnified.
" 17. Vertical section of a pileus magnified.
" 18. Transverse section of a stem magnified.
" 19. Four spores x 400.

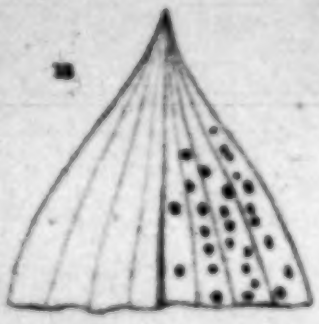
FUNGI.











Lith. of Weed Parsons & Co. Albany N.Y.

PLATE II.—(Continued.)

Clavaria spathulata Peck.

Page 100.

Fig. 20. Part of a branch of *Carya alba* bearing five plants.
" 21. A plant magnified.

Tremella (Coryne) stipitata Peck.

Page 100.

Fig. 22. A piece of wood bearing five plants.
" 23. Three spores x 400.

Peridermium balsameum Peck.

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Fig. 24. A leaf of *Abies balsamea* bearing the Peridermium.
" 25. Part of a leaf with one closed and one ruptured peridium, magnified
" 26. A spore x 400.

Marasmius minutissimus Peck.

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Fig. 27. Part of a leaf bearing three plants.
" 28. A plant magnified.

EXPLANATION OF PLATES.

The following Plates, 9–13, inclusive, are illustrative of a paper on *New Species of Fossils from the Vicinity of Louisville, Kentucky, and the Falls of the Ohio*, in the 24th Report on the State Museum of Natural History, pp. 181–200[a]. The plates were omitted in the publication of the Report for want of time for their preparation. Explanations refer to pages of 24th Report.

PLATE IX.

ORTHIS RUGÆPLICATA H. & W.

Page 182.

FIGS. 1, 2, 3. Dorsal, ventral and profile views of specimen enlarged two diameters.

ORTHIS NISIS H. & W.

Page 181.

FIGS. 4–6. Dorsal, ventral and profile views of a large individual.

" 7, 8. Profile and dorsal views of a smaller individual.

PRODUCTUS (PRODUCTELLA) SUBACULEATA Murch., var. CATARACTA H. & W.

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FIGS. 9, 10. Ventral and profile views.

SPIRIFERA ROSTELLUM H. & W.

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FIGS. 11–13. Dorsal, ventral and front views.

CYRTINA CRASSA Hall.

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FIGS. 14, 15, 16. Dorsal, cardinal and front views.

SPIRIFERA RADIATA Sow.

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FIGS. 17, 18. Dorsal and ventral views of a specimen from the horizon of the Clinton group, near Louisville, Ky.

CYRTIA TRAPEZOIDALIS Hisinger.

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FIGS. 19, 20, 21. Dorsal, front and cardinal views of specimen.

1874

1874

REPORT OF THE BOTANIST.

S. B. WOOLWORTH, LL.D.,
Secretary of the Board of Regents of the University.

SIR—Since the date of my last report, specimens of one hundred and fifty species of plants have been mounted and placed in the Herbarium of the State Museum of Natural History, of which one hundred and thirty were not before represented therein. A list of the specimens mounted is marked (1).

Specimens have been collected in the counties of Albany, Dutchess, Fulton, Greene, Hamilton, Oswego, Rensselaer and Saratoga. These represent one hundred and sixty species new to the Herbarium, seventy of which are regarded as new or hitherto undescribed species. A list of the specimens collected is marked (2).

Specimens of fifty-six New York species, new to the Herbarium and not among my collections of the past season, have been contributed by or been obtained in naming specimens for correspondents. These added to the collected species make the whole number of additions two hundred and sixteen, a number considerably in excess of that for the previous year. A list of the contributors and their contributions is marked (3).

New species with their descriptions, previously unreported species, new stations of rare plants, etc., are given in a section marked (4).

CLASSIFIED TABULAR STATEMENT.

		New to the Herbarium.	New to science.
Plants collected,	Flowering plants	3	....
	Algæ	3	....
	Fungi	154	70
Total		160	70
Plants contributed,	Flowering plants	5	....
	Mosses	2	....
	Lichens	3	....
	Fungi	46	13
Total		56	13
Collected and contributed		216	83

In my last report allusion was made to the fact that the spruce trees in some parts of the great northern wilderness, were said to be dying at an unusual rate as if affected by some fatal disease. In the absence of any personal knowledge of the circumstances or conditions attending the destruction of these trees, the attacks of fungi, the attacks of insects and the effects of drought were suggested as possible causes, chiefly for the purpose of directing the attention of those who might have the opportunity of an investigation, in such directions as seemed most likely to afford a satisfactory explanation of the mystery. It was then my impression that the trouble was of comparatively recent date and that it was possibly due to the modification of our climate by reason of the extensive and rapid denudation of our forest lands.

But I find that it is no new thing, that years ago lumbermen were fully aware of the pecuniary loss they were sustaining from this timber malady. Mr. Henry Hough, in answer to my inquiries, writes from Lewis county thus: "The dying of the spruce in this section has mostly, if not entirely, ceased. The greatest destruction on our territory was from ten to fifteen years ago." In Rensselaer county the same trouble was experienced about thirty years ago. A lumber firm found that their spruce timber was rapidly dying, and to make their

loss as light as possible they made haste to open roads in the forest that they might draw out and work up as many dead spruces as practicable before decay should render them entirely worthless. But with all their promptness they suffered no inconsiderable loss, for these dead trees soon became too much decayed to make marketable lumber.

I have asked lumbermen and others who have been aware of the destruction of the spruces, what theory they held in respect to the cause of it. Their theories are various, but the most prevalent attribute it to excessive dry weather or to the agitation of the trees by high winds. The few observations that I have been able to make lead me to adopt a theory quite different from these, and though the discussion of it belongs rather to the province of the entomologists than of the botanists, such is the importance of the subject that I cannot withhold a brief account of my investigations and conclusions.

In August a collecting trip was undertaken in the vicinity of Lake Pleasant, Hamilton county. While there it became apparent to me that I was in a region where the spruces were dying. Standing near the outlet of the lake and looking upon the distant mountain slopes toward the north-east, east and south, patches of brown appeared here and there mingled with the usual dark green hue of the forest. The inhabitants told me that these brown patches were groups of dead spruces; that the spruce trees were then rapidly dying, and had been for two or three years previous, and that in consequence the value of the woodland was greatly diminishing. One of the most conspicuous of these brown patches was on the slope of Speculator Mountain, a little more than half way from the base to the summit. Preparations were therefore made to visit this locality. Once on the ground it needed but little observation to satisfy me that the destructive process was then in operation. The ground under some of the spruces was thickly strewn with their fallen leaves, yet green, and every agitating wind was bringing down more of them. The bark of these trees, and of others already dead, was perforated in many places with small round holes scarcely one-eighth of an inch in diameter. Upon stripping a piece of bark from the trunk of one of the affected trees, the apparent cause of the mischief was at once revealed. The surface of the wood and the inner layers of the bark were abundantly furrowed by

the winding and branching galleries of a small bark-mining beetle, an insect known to entomologists as the *Hylurgus rufipennis* Kirby, though the wings are by no means always red, as the name would indicate. Both the mature insect and its larvæ occurred in countless numbers under the bark of the dying and recently dead trees. In a single instance they were accompanied by a much smaller beetle of similar shape and habits, the *Apate rufipennis* Kirby,* but the former is evidently the chief agent in this unprofitable business. These insects excavate their passages between the bark and the wood, eating away a part of both. Their extended work is, therefore, equivalent to a girdling of the tree. Their numerous galleries form an intricate network of furrows on all sides of the trunk, and traverse one of the most vital parts of the tree, the newly formed and forming layers of wood and bark. The furrows are shallow on the surface of the wood, rather more than half their diameter being in the bark, but their effect is to interrupt the circulation of the nutrient juices, and finally to destroy all vital action. The perforations in the bark, by admitting moisture, doubtless work more or less injury. The surface of the sapwood and the corresponding inner surface of the bark of living trees are discolored for a short space on both sides of the furrows, as if the injury exerted a poisonous or deadening influence on the tissues in its immediate vicinity. This was clearly seen in a tree which had been but slightly injured, there being but few furrows, and these merely longitudinal ones without lateral branches. Each occupied the center of a discolored stripe about half an inch broad, but which usually extended from two to four inches up and down beyond the extremities of the furrows. In another tree there were groups of furrows separated by considerable intervals, the central portions of which intervals had a whitish fresh appearance when the bark was first peeled, but after a few moments' exposure to the air the whole surface of the wood had changed to a dull, dead brown color, indicating a diseased or unnatural condition of the surface tissues. The foliage on this tree had not yet lost the green hue of life, but had commenced falling to the ground.

Small trees are rarely attacked. In the localities visited,

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* I am indebted to Messrs. *J. A. Lintner* and *J. L. Leconte* for the entomological names of these insects.

from one-half to two-thirds of the spruces with a basal diameter ranging from one to two feet were either dead or dying. Trees of this size are the most suitable for lumber and consequently the most valuable. The smallest affected tree noticed, had an estimated basal diameter of about ten inches. In this case the attack appeared to be a failure, for so much resin had oozed from the wounds that the work was obstructed. The galleries were scattered and single and their authors were found dead, each in its furrow. No larvæ were present, and the apparent attempt to establish a colony in this tree had thus far failed. But it may be that this tree had only been attacked for the purpose of obtaining food, and had not yet been brought into that sickly, languishing condition thought by some entomologists to be necessary to induce the establishment of a colony, the deposition of eggs and the development of larvæ. For it is said of *Scolytus destructor*, a bark-mining beetle that sometimes proves very destructive to elm trees in Europe, that the adult insects first attack healthy trees for the purpose of obtaining food, and when, by this means the vigor of the tree has become somewhat impaired, the female deposits her eggs in her galleries. Then the rapidly increasing numbers soon destroy the life of the tree.

When two trees of unequal size stand in close proximity the larger one seems to be most liable to be attacked. In one instance two trees stood scarcely more than three feet apart. The larger one had been attacked; the smaller remained unharmed. In another similar instance the larger of the two trees was dead, having been attacked first; the other was dying. Why this preference on the part of these insects for the largest trees? It may be that young trees are apt to be too resinous to be attacked successfully. In the case of the small tree already mentioned the gummy exudations from the perforations in the bark first attracted my attention. Or the insects may instinctively know that a tree with a large trunk presents a broader field for their operations than one with a small trunk; or possibly the vigor of the tree may be so impaired by age that it is more readily brought into suitable condition for the habitation of these parasites. Whatever the cause of this selection, no diseased condition of the trees was detected except that which was accompanied by and to all appearance was directly due to the insects themselves. Cer-

tainly if the tree is at all diseased before its attack, the insects must be exceedingly quick to detect it, else they could not be found in abundance in trees whose leaves are yet green and whose sapwood is yet fresh and moist, except where stained by their excavations.

In the vicinity of Lake Pleasant the affected trees are upon the mountain slopes or on dry ridges where the spruces are especially abundant. And we might naturally expect that the insects would be attracted to and carry on their depredation most extensively in these localities where the material on which they work is most abundant. In the valleys I saw no trees affected by them and yet they doubtless do carry on their destructive work in the low lands where spruces abound. I see no reason why they should not.

In some localities their ravages have already ceased. On the slopes of an elevation a few miles southwest from Speculator Mountain there are two groves of dead spruces. Many trees in both were examined and, though all the dead ones bore unmistakable marks of the former presence of the beetle, not one could now be found either in the adult or in the larval state. What had caused them to disappear? Surely not the lack of material on which to work, for several large living spruces yet remained. This leads to the consideration of remedies. Doubtless there are natural agencies whose free operation has a tendency to check the ravages of these insects and to prevent their excessive multiplication, but there are times and localities in which these opposing agencies are inefficient or inoperative, and then these destructive insects multiply rapidly and their ravages become painfully apparent. It is then necessary that man himself should do something to protect his property from these active little foes. It was noticeable that many of the dead trees, in the two groves just mentioned, had their bark so chipped by wood-peckers that the general hue of the trunk was a reddish-brown instead of the usual grayish-brown. Here then is a possible explanation of the cessation of the ravages and the absence of the insects. Here is doubtless the indication of one of natures antidotes to the mischief. The wood-pecker is the natural foe of such insects. With its long beak and barbed tongue it extracts them as a dainty morsel from beneath the bark. It is quite probable that these birds had congregated in these two localities in sufficient numbers to completely stop the ravages of the insects.

A few were seen at work on the affected spruces of Spectator Mountain, and if not interrupted they will probably in due time succeed in checking the ravages here also. The protection of these birds is to be enumerated among the means to be employed in checking the malady of the spruces. They are the friends of the forest and the allies of man. How insignificant the insect yet how capable of injury. How lightly we esteem the wood-pecker yet how indispensable are his services.

A remedy employed in similar cases in Europe is to cut down the affected trees, strip off their bark and burn it with its destructive tenants. Though it is somewhat doubtful if the owners of large tracts of timber land can be induced to adopt this method of checking the destruction of their spruces, it is certainly to be recommended. The loss from its omission would soon far exceed the cost of its employment, but care should be taken not to engage in this work in a dry time lest the destruction from forest fires should be greater than that from insects.

A brief extract from the Entomology of Kirby and Spence will show that the ravages of insects upon forest trees in Europe have sometimes been serious, and that it is none too soon for us to note well what is transpiring in our own forests.

"The bark-borer of the oak is a small beetle of an allied genus, *Scolytus pygmæus* which with us does no great harm, but so abounded of late years in the Bois-de-Vincennes, near Paris, that 40,000 trees were killed by it; and many of the finest elms in St. James' Park and Kensington Gardens as well as in the promenades of various cities in the north of France, have fallen victims to another of this tribe, *Scolytus destructor*, whose trivial name well characterizes the frequency and severity of its ravages. The ravages of *Tomicus typographus* in the pine forests of Germany, have long been known under the name *Wurmtröknies* (decay caused by worms), and they sometimes attack the inner bark in such numbers, 80,000 being sometimes found in a single tree, that they are infinitely more noxious than those insects that bore into the wood. About the year 1668 this pest was particularly prevalent and caused incalculable mischief, and in 1783 it is estimated that a million and a half of trees were destroyed by it in the Hartz forests alone. At this period

when arrived at their perfect state they migrated in swarms like bees into Canada and Franconia. At length between 1754 and 1759 in consequence of a succession of cold moist seasons the numbers of this scourge were sensibly diminished, but they appeared again in 1760 and so late as 1761 there was great reason to fear for the few fir trees that were left."

Westwood states that occasionally the evil was so great that prayers were offered in the churches against its extension. While we hope that our spruce tree bark-borer may never prove to be such a pest as this Tomicus, we certainly think that he deserves some special attention.

(1.)

PLANTS MOUNTED.

Ranunculus acris *L.*	Cannabis sativa *L.*
Caltha palustris *L.*	Quercus alba *L.*
Vaccinia vulgaris *Host.*	Q. bicolor *Willd*
Ptelea trifoliata *L.*	Q. montana *Willd.*
Prunus pumila *L.*	Q. prinoides *Willd.*
Aralia hispida *Mx.*	Q. coccinea *Wang.*
Cornus stolonifera *Mx.*	Q. tinctoria *Bart.*
Sambucus pubens *Mx.*	Q. rubra *L.*
Solidago cæsia *L.*	Carex bromoides *Schk.*
Erigeron strigosum *Muhl.*	Agrostis alba *L.*

New to the Herbarium.

Aconitum Napellus *L.*	Hypnum exannulatum *Gumb.*
Solidago elliptica *Ait.*	H. cupressiforme *L.*
Polygonum Careyi *Olney.*	H. acutum *Mitt.*
P. Hartwrightii *Gr.*	Sphagnœcetis Hubeneriana
Euphorbia Cyparissias *L.*	Jungermannia albescens *Hook.*
Scirpus Olneyi *Gr.*	J. ventricosa *Dicks.*
Carex striata *Mx.*	Scapania undulata *N. & M.*
Botrychium Lunaria *Sw.*	Frullania Oakesiana *Aust.*
B. matricariæfolium *A. Br.*	Cetraria Fahlunensis *Schær.*
Lycopodium sabinæfolium	Lecanora badia *Fr.*
Thelia Lescurii *Sulliv.*	Cladonia deformis *Hoffm.*
Hypnum Oakesii *Sulliv.*	C. papillaria *Hoffm.*

Bæomyces byssoides *Fr.*
Biatora milliaria *Fr.*
Lecidea arctica *Smf.*
L. Diapensiæ *Th. Fr.*
L. melancheima *Tuck.*
Porphrydium cruentum *Ag.*
Agaricus cepæstipes *Sow.*
A. fumosoluteus *Pk.*
A. rosellus *Fr.*
A. constans *Pk.*
A. atroalboides *Pk.*
A. delectabilis *Pk.*
A. Acicula *Schæff.*
A. montanus *Pk.*
A. Rhododendri *Pk.*
A. infidus *Pk.*
A. fuscodiscus *Pk.*
A. luteofolius *Pk.*
A. chimonophilus *B. & Br.*
Coprinus aquatilis *Pk.*
Cortinarius fuscoviolaceus *Pk.*
Hygrophorus aurantiacoluteus
Gomphidius stillatus *Fr.*
Lactarius alpinus *Pk.*
Marasmius minutus *Pk.*
M. minutissimus *Pk.*
Panus operculatus *B. & C.*
Polyporus cupulæformis *B.&C*
P. squamosus *Fr.*
P. volvatus *Pk.*
P. vulgaris *Fr.*
P. incarnatus *Fr.*
Trametes odoratus *Fr.*
Merulius porinoides *Fr.*
Stereum balsameum *Pk.*
S. versiforme *B. & C.*
Corticium calceum *Fr.*
C. colliculosum *B. & C.*
C. cremoricolor *B. & C.*
C. lilacinofuscum *B. & C.*
Cyphella candida *Pk.*
Clavaria spathulata *Pk.*
Typhula gyrans *Fr.*
T. filicina *Pk.*
Tremella cuata *B. & C.*
T. stipitata *Pk.*
Dacrymyces fragiformis *Nees.*
Ditiola radicata *Fr.*
Reticularia umbrina *Fr.*
Diderma umbilicatum *Pers.*
Phoma ellipticum *Pk.*
Septoria Verbenæ *D. & R.*
Discosia Maculæcola *Ger.*
Pestalozzia Mariæ *Clinton.*
Coryneum triseptatum *Pk.*
Spilocæa concentrica *Schw.*
Helicosporium olivaceum *Pk.*
H. ellipticum *Pk.*
Sporidesmium concinnum *B&C*
Puccinia Veratri *Clinton.*
Uromyces Lilii *Clinton.*
Ustilago Syntherismæ *Schw.*
U. Erythronii *Clinton.*
Uredo Smilacis *Schw.*
U. Empetri *DC.*
Æcidium dubium *Clinton.*
Peridermium elatinum *Lk.*
P. balsameum *Pk.*
P. decolorans *Pk.*
Pterula setosa *Pk.*
Cladosporum Lignicola *Cd.*
Oidium corticale *Pk.*
Fusidium flavovirens *Fr.*
Monilia candida *Pk.*
Pilobolus crystallinus *Tode.*
Chætomium melioloides *C.& P*
Helvella sphærospora *Pk.*
Mitrula cucullata *Fr.*
M. inflata *Schw.*
Peziza adusta *C. & P.*
P. subcarnea *C. & P.*
Ascobolus pilosus *Fr.*

Helotium aciculare *Fr.*
H. fastidiosum *Pk.*
Tympanis Fraxini *Schw.*
Hysterium tumidum *Duby.*
H. xylomoides *Chev.*
H. Rhododendri *Schw.*
Rhytisma monogramma *B. & C.*
Torrubia entomorrhiza *Fr.*
Epichloe Hypoxylon *Pk.*
Hypomyces aurantius *Tul.*
Nectria episphaeria *Fr.*
Dothidea tetraspora *Fr.*
Dothidea Dalibardae *Pk.*
Diatrype platasca *Pk.*
D. corniculata *Ehrh.*
Valsa impulsa *C. & P.*
V. Peckii *Howe.*
Lophiostoma sexrucleata
Sphaeria thujina *Pk.*
S. pilifera *Fr.*
S. lagenaria *Pers.*
S. orthogramma *B. & C.*
S. Parnassiae *Pk.*
S. Arceuthobii *Pk.*

(2.)

PLANTS COLLECTED.

Pyrus sambucifolia *C. & S.*
Aster amethystinus *Nutt.*
Bromus tectorum *L.*
Glaeocapsa rupestris *Kutz.*
Hydrogastrum granulatum *L.*
Spirogyra longata *Vauch.*
Agaricus pusillomyces *Pk.*
A. tenerrimus *Berk.*
A. Austini *Pk.*
A. Watsoni *Pk.*
A. detersibilis *Pk.*
A. Colvini *Pk.*
Coprinus Seymouri *Pk.*
Hygrophorus marginatus *Pk.*
H. parvulus *Pk.*
H. Peckianus *Howe.*
Cantharellus pruinosus *Pk.*
Lentinus umbilicatus *Pk.*
Boletus robustus *Frost.*
B. chromapes *Frost.*
Polyporus Stephensii *Berk.*
Hydnum aurantiacum *Batsch.*
Michenera Artocreas *B. & C.*
Corticium giganteum *Fr.*
Corticium colliculosum *B. & C.*
Cyphella muscigena *Fr.*
Solenia filicina *Pk.*
Clavaria rugosa *Bull.*
C. pulchra *Pk.*
C. gracillima *Pk.*
Typhula Grevillei *Fr.*
Tremella vesicaria *Bull.*
T. mycetophila *Pk.*
Æthalium geophilum *Pk.*
Licea ochracea *Pk.*
Diderma flavidum *Pk.*
Didymium oxalinum *Pk.*
D. subroseum *Pk.*
D. flavidum *Pk.*
Dictydium umbilicatum *Schrd.*
Phoma pallens *B. & C.*
Sphaeropsis Sambuci *Pk.*
S. biformis *Pk.*
Hendersonia Sarmentorum
Vermicularia coptina *Pk.*
Septoria Scrophulariae *Pk.*
S. Rhoidis *B. & C.*
Dinemasporium Pezizula *B.&C*

Cytispora Michaneri *B. & C.*
Discella discoidea *C. & P.*
Sphæronema oxysporum *Berk*
S. conforme *Pk.*
Coryneum Kunzei *Ck.*
Pestalozzia insidiosa *Sub.*
Septonema bicolor *Pk.*
Sporidesminm Leprarie *B & Br*
Melanconium disseminatum *Fr*
M. oblongum *B. & C.*
Puccinia Sorghi *Schw.*
Ustilago destruens *Duby.*
Peridermium columnare *A.&S.*
Æcidium Dracontiatum *Schw.*
Cystopus Amaranthi *Schw.*
Stilbum candidum *Pk.*
Stachybotrys lobulata *Berk.*
Haplographium apiculatum
Helminthosporium Urticæ *Pk.*
Macrosporium Saponariæ *Pk.*
Nematogonum aurantiacum
Perenospora Geranii *Pk.*
P. obliqua *Ck.*
Erysiphella aggregata *Pk.*
Microsphæra Van Bruntiana
Chætomium lanosum *Pk.*
Geoglossum velutipes *Pk.*
Pezizæ onotica *Pers.*
P. repanda *Wahl.*
P. pallidula *C. & P.*
P. omphalodes *Bull.*
P. sepulta *Fr.*
P. ovilla *Pk.*
P. clandestina *Bull.*
P. fusicarpa *Ger.*
P. hyalina *Pers.*
P. cinera *Batsch.*
P. scirpina *Pk.*
P. Pteridis *A. & S.*
P. corneola *C. & P.*
P. subatra *C. & P.*
Pezizæ atrocinereæ *Ck.*
Helotium pilentum *Pk.*
H. salicellum *Fr.*
Patellaria fusispora *C. & P.*
P. fenestrata *C. & P.*
Dermatea cinnamomea *C. & P.*
Sphinctrina tigillaris *B. & Br.*
Cenangium Rubi *Fr.*
C. Aucuparie *Fr.*
C. deformatum *Pk.*
Stictis pupula *Fr.*
S. hysterina *Fr.*
S. quercina *Pk.*
Rhytisma Urticæ *Fr.*
Hysterium Rousselii *De Not.*
H. clavisporum *C. & P.*
Colpoma lacteum *Pk.*
Allographum subconfluens *Pk*
Torrubia clavulata *Schw.*
T. superficialis *Pk.*
Nectria sanguinea *Fr.*
Hypoxylon fuscopurpureum
Dothidea Linderæ *Ger.*
Diatrype aspera *Fr.*
D. discoidea *C. & P.*
D. anomala *Pk.*
Melanconis bicornis *Cooke.*
Valsa Prunastri *Fr.*
V. Rubi *Pk.*
V. Woolworthi *Pk.*
V. leiphæmia *Fr.*
V. acerina *Pk.*
V. oxyspora *Pk.*
V. obscura *Pk.*
V. mucronata *Pk.*
V. femoralis *Pk.*
V. sambucina *Pk.*
Cucurbitaria alnea *Pk.*
C. seriata *Pk.*
Lophiostoma Jerdoni *B. & Br.*
L. macrostoma *Fr.*

Lophiostoma triseptata *Pk.*
L. Spiræa *Pk.*
L. Scrophulariæ *Pk.*
Sphæria callista *E. & C.*
S. obscurilenta *Pk.*
S. litigiosa *Pk.*
S. phæostroma *Pk.*
S. ochiotis *Pk.*
S. caninà *Pk.*
S. valoides *Pk.*
S. minima *Awd.*
S. scoriadea *Fr.*
S. mesosperma *Pk.*
Sphæria pallescens *Pers.*
S. rubefaciens *Pk.*
S. Urtheæ *Robh.*
S. microbilis *Pk.*
S. tubiformis *Tode.*
Sphærella sparsa *Awd.*
S. carpinea *Fr.*
S. indistincta *Pk.*
S. orbiculatis *Pk.*
Venturia Myrtilli *Cooke.*
V. maculiformis *Pk.*
V. Clintonii *Pk.*
V. Kalmiæ *Pk.*

(2)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss M. L. WILSON, Buffalo, N. Y.

Collema limosum *Nyl.*
Blastenia uliginosa *Fr.*

Mrs. L. A. MILLINGTON, Glens Falls, N. Y.

Aspidium Noveb. s. fragrans.
Dothidea Pteridis *Fr.*
Peridermium decolorans *Pk.*
P. elatinum *A. & S.*

Mrs. E. E. ATWATER, Chicago, Ill.

Sarracenia variolaris *Mx.*
Viola ped. v. bicolor.
Drosera capillaris *Poir.*
D. brevifolia *Pk.*
Ascyrum amplexicaule *Mx.*
Silene Pennsylvanica *Mx.*
Melia Azederach *L.*
Sassafras officinale *Nees.*
Lycopodium alopecuroides *L.*
Dicranum scoparium *L.*
Leucobryum minus *Hampe.*
Hedwigia ciliata *Hdrh.*
Bryum Atwaterie *C. Mull.*
Hypnum molluscum *Hedw*
Lentinus Lecomtei *Fr.*
Polyporus hirsutus *Fr.*
P. cinnabarinus *Fr.*
Stereum fasciatum *Fr.*
Mitremyces lutescens *Schw.*
Peridermium Cerebrum *Pk.*

Rev. H. WIBEL, Oswego, N. Y.

Sedum reflexum *L.*

Rev. J. L. ZABRISKIE, New Baltimore, N. Y.

Dinemasporium Pezizula *B. & C.*
Pestalozzia insidens *Zab.*
P. rostrata *Zab.*
Blastesia tridens *Zab.*
Lophiostoma Jerdoni *B. & Br.*
Diatrype discoides *C. & P.*

Prof. C. R. BESSEY, Ames, Iowa.

Ustilago foetens *B. & C.*
Ustilago destruens *Duby.*

Prof. A. N. PRENTISS, Ithaca, N. Y.

Negundo aceroides *Mench.*
Nardosmia palmata *Hook.*
Pinguicula vulgaris *L.*
Primula Mistassinica *Mx.*
Trillium erec. v. album *Pk.*

Prof. J. HALL, Albany, N. Y.

Hellvella esc. v. conica *Fr.*
Spilocea Pomi *Fr.*

C. DEVOL, M. D., Albany, N. Y.

Platycrium alcicorne *Gaud.*
Cucurbitaria seriata *Pk.*

E. C. HOWE, M. D., Yonkers, N. Y.

Centaurea nigra *L.*
Coryneum dia. v. ellipticum.
Puccinia bullaria *Lk.*
Patellaria dispersa *Ger.*
Diatrype prominens *Howe.*
Microsphæra Platani *Howe.*
M. Symphoricarpi *Howe.*
M. Mealspermi *Howe.*
M. Viburni *Schw.*
Sphæria Platanicola *Howe.*

H. WILLEY, New Bedford, Mass.

Synalissa Schœreri *Mass.*
Ramalina rigida *Pers.*

R. KERSTING, Yonkers, N. Y.

Centaurea nigra *L.*

H. A. WARNE, Oneida, N. Y.

Azolla Caroliniana *Willd.*
Hydnum auriscalpium *L.*
Epichloe typhina *Berk.*
Geoglossum velutipes *Pk.*

E. L. HANKENSON, Newark, N. Y.

Habenaria leucophæa *Nutt.*

W. R. GERARD, Poughkeepsie, N. Y.

Septoria maculosa *Ger.*
Stilbum aurifilum *Ger.*
Peziza Cucurbitæ *Ger.*
Patellaria dispersa *Ger.*
Hysterium vixvisibile *Ger.*
H. magnosporium *Ger.*

J. T. LOCKWOOD, Hunter, N. Y.

Lygodium palmatum *Sw.*

B. D GILBERT, Utica, N. Y.

Carex Grayi *Carey.*
C. Crawei *Dewey.*
C. livida *Willd.*
Brotychium matricariæfolium *A. Br.*

M. RUGER, New York, N. Y.

Amarantus spinosus *L.*
Scleria verticillata *Mx.*

E. S. MILLER, Wading River, N. Y.

Ustilago Montagnei s. major *Desm.*

J. B. ELLIS, Newfield, N. J.

Agaricus trullisatus *Ellis.*
Polyporis contiguus *Fr.*
Thelephora pedicellata *Schw.*
Hymenochæte tabacina *Fr.*
H. agglutinans *Ellis.*
Corticium colliculosum *B. & C.*
Exobasidium discoideum *Ellis*
E. Andromedæ *Pk.*
Scleroderma Geaster *Fr.*
Hendersonia sarmentorum.
Pestalozzia pezizoides *De Not.*
Melanconium magnum *Berk.*
M. bicolor *Nees.*
Bactridium Ellisii *Berk.*
Septonema bicolor *Pk.*
Phragmidium mucronatum *Fr*
P. speciosum *Fr.*
Puccinia Smilacis *Schw.*
P. Helianthi *Schw.*
Uromyces Spermacocis *Schw.*
Ustilago Syntherismæ *Schw.*
Rœstelia Ellisii *Pk.*
Æcidium pyratum *Schw.*
Æ. myricatum *Schw.*
Peridermium pyriforme *Pk.*
Gymnosporangium Juniperi.
G. clavipes *C. & P.*
G. biseptatum *Ellis.*
Podisoma Ellisii *Berk*
Dendriphium quadriseptatum.
Helminthosporium 7 septatum.
Chætomium melioloides *C.&P.*
Peziza albopileata *Ck.*
P. Erigeronata *Ck.*
P. pollinaria *Ck.*
P. protrusa *B. & C.*
P. Andropogonis *B. & C.*
Nectria inaurata *B. & Br.*
Triblidium unisculptum *Ck.*
Hypoxylon Sassafras *Schw.*
H. marginatum *Schw.*
Valsa Peckii *Howe.*
Sphæria hirtissima *Pk.*
S. pulveracea *Ehrh.*
Venturia pulchella *C. & P.*

Hon. T. M. PETERS, Moulton, Ala.

Nectasia Alabamensis *Gr.*
Leavenworthia Michauxii *Tor.*
Diamorpha pusilla *Nutt.*
Asplenium pinnatifidum *Nutt*
Trichomanes radicans *Sw.*
T. Petersii *Gr.*
Lemanea fluviatilis *Ag.*
Myriangium Curtisii *M. & B.*
Corticium prasinum *B. & C.*
Hygrophorus Petersii *B. & C.*
Pilacre Petersii *B. & C.*
Hypocrea Petersii *B. & C.*
Hypoxylon Petersii *B. & C.*
Dendrina Diospyri *B. & C.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Stereum candidum *Schw.*
Phoma Mariæ *Clinton.*
Sphæropsis Wilsoni *Clinton*
S. Squieriæ *Clinton.*
S. Clintonii *Pk.*
Diplodia Herbarum *Lev.*
Hendersonia Peckii *Clinton.*
H. Mariæ *Clinton.*
Septoria Scrophulariæ *Pk.*
S. Rhoidis *B. & C.*
S. Verbascicola *B. & C.*
S. Sambucina *Pk.*
S. Wilsoni *Clinton.*
Vermicularia coptina *Pk.*
Asteroma Rosæ *DC.*
Cytispora Micheneri *B. & C.*
Melanconium minutissimum.
Pestalozzia Peckii *Clinton.*
Puccinia Smilacis *Schw.*
P. Dayi *Clinton.*
P. Clintonii *Pk.*
P. Sorghi *Schw.*
Uromyces Graminum *Ck.*
Protomyces Menyanthis.
Monotospora biseptata *Pk.*
Microsphæra abbreviata *Pk.*
Helotium salicellum *Fr.*
Sphinctrina tigillaris *B. & Br.*
Hysterium clavisporum *C. & P.*
Melogramma Bulliardi *Tul.*
Melanconis biformis *Ck.*
Valsa suffusa *Fr.*
V. femoralis *Pk.*
Lophiostoma triseptata *Pk.*
Sphæria callista *B. & C.*
S. acer. v. Juniperi *West.*
S. rubefaciens *Pk.*
S. Daturæ *Schw.*
S. perisporioides *B. & C.*
Sphærella oblivia *Ck.*
S. carpinea *Fr.*
S. sparsa *Awd.*
Venturia Clintonii *Pk.*

C. F. AUSTIN, Closter, N. J.

Barbula recurvifolia *Schp.*
Hypnum compactum *C. Mull.*
Tremella foliacea *Pers.*
Pistillaria Muscicola *Fr.*
Perichæna flavida *Pk.*
Licea perreptans *Berk.*
Morchella esculenta *Pers.*
Leotia lubrica *Pers.*
Torrubia militaris *Fr.*
Xylaria polymorpha *Grev.*
Sphæria fimbriata *Pers.*
S. coprophila *Fr.*

C. C. PARRY, Davenport, Iowa.

Aleidium biforme *Pk.*
Calyptospora Goeppertiana *Kühn.*

J. M. COWDON, East Greenwich, R. I.

[*By exchange.*]

Acer macrophyllum *Pk.*
Desmodium sessilifolium *T. & G.*
Hedysarum boreale *Nutt.*
Garrya Fremontii *Dou.*
Plectritis congesta *DC.*
Galium verum *L.*
Aster graminifolius *Pk.*
Solidago elliptica *Ait.*
Primula suffruticosa *Gr.*
Sarcodes sanguinea *Don.*
Mimulus rubellus *Gr.*
Gilia pungens *Gr.*
Castanea chrysophylla *Dougl.*
Lasianthea tinctoria *Ell.*
Listera convallarioides *Hook.*
Eleocharis rostellata *Torr.*
Rhynchospora scirpoides *Gr.*
Scirpus sylvaticus *L.*
Scleria reticularis *Mx.*
Carex salina *Wahl.*
C. maritima *Vahl.*
C. polymorpha *Muhl.*
C. nutricata *L.*
C. paludosa *Good.*
C. præcox *Jacq.*
C. Novæ-Angliæ *Schw.*
Calamagrostis stricta *Trin.*
C. Lapponica *Trin.*
Oryzopsis Canadensis *Don.*
Poa cæsia *Sm.*

(4)

PLANTS, INDIGENOUS AND INTRODUCED, NOT BEFORE REPORTED.

NEGUNDO ACEROIDES *Moench.*

Inlet Valley, near Ithaca. *Prof. A. N. Prentiss.* The credit of the discovery of these trees in the locality given is attributed to *Mr. J. C. Branner*, a student of Cornell University.

PYRUS SAMBUCIFOLIA *Cham. & Schl.*

Adirondack Mountains. Not common.

SEDUM REFLEXUM *L.*

Near Burden's lake, Rensselaer county. *Rev. H. Wibbe.* I am informed by Mr. Wibbe that the plants grow on a bank by the road-side, in a reddish soil of clay and shale and that they appear to be thoroughly naturalized. He was unable to learn upon inquiry that the plant is now or ever had been in cultivation any where in the vicinity.

ASTER AMETHYSTINUS *Nutt.*

Green Island, Albany county. The locality of this fine aster was made known to me by *Mr. Wibbe*. The plants are not numerous and are associated with *Aster Novæ-Angliæ* and *A. multiflorus*.

CENTAUREA NIGRA *L.*

Rocky places. Yonkers. *R. Kersting* and *E. C. Howe*.

HABENARIA LEUCOPHÆA *Nutt.*

Sphagnous marshes on the shores of Mud pond, Wayne county. *E. L. Hankenson*.

BROMUS TECTORUM *L.*

Riverhead, Long Island. *E. S. Miller*.

BARBULA RECURVIFOLIA *Schp.*

Watkins Glen. *C. F. Austin*. Sterile.

HYPNUM COMPACTUM *C. Mull.*

Eldridge Glen, near Seneca lake, *Austin*. Sterile.

BIATORA ULIGINOSA *Schrad.*

North Collins. *Miss. M. L. Wilson*.

SYNALISSA SCHÆRERI *Mass.*

Rocks. Trenton Falls. *H. Willey*.

COLLEMA LIMOSUM *Ach.*

Buffalo. Very rare. *Miss Wilson*.

GLŒOCAPSA RUPESTRIS *Kutz.*

What I take to be this species is not rare about Albany, forming a green stratum on stone steps, walls of buildings, old fences and trunks of trees. It is most conspicuous in wet weather in winter and spring. I have not seen a full description of the species.

HYDROGASTRUM GRANULATUM *L.*

Damp ground in dried water holes. North Greenbush. This plant has been supposed by some to be the cause of ague and has therefore been called the "ague plant," but it is hardly probable that it has any such deleterious quality.

SPIROGYRA LONGATA *Vauch.*

In ditches along the railroad. North Greenbush. June.

AGARICUS (LEPIOTA) PUSILLOMYCES *n. sp.*

Pileus thin, subcampanulate or convex, subumbonate, minutely granular mealy, whitish or dingy; lamellæ broad, close, free, white; stem slender, equal, exannulate, rough with a granular-mealiness, colored like the pileus; spores elliptical, .00016′–.0002′* long.

Plant scarcely 1′ high, pileus 2″–4″ broad, stem .5″ thick.

Ground under *Pteris aquilina*. Lake Pleasant. August. (Plate 1, figs. 1–3.)

The species is related to *A. granulosus* but the plants are very much smaller and ringless.

AGARICUS TENERRIMUS *Berk.*

Under pine and hemlock trees. Northville, Fulton county. August.

AGARICUS (OMPHALIA) AUSTINI *n. sp.*

White, rather tenacious; pileus convex or hemispherical, glabrous, striate, deeply umbilicate, sometimes perforate, viscid when moist; lamellæ subdistant, decurrent; stem slender, equal, hollow, smooth, villose at the base; spores elliptical, .00025′ long.

Plant gregarious, about 1′ high, pileus 3″–6″ broad.

Prostrate dead trunk of a small spruce tree. Providence, Saratoga county. August.

Dedicated to *Mr. C. F. Austin.*

AGARICUS (ECCILIA) WATSONI *n. sp.*

Pileus hemispherical or convex, umbilicate, striatulate, brown, the umbilicus darker and rough with minute blackish-brown scales; lamellæ distant, arcuate, decurrent, whitish then flesh-colored; stem equal, smooth, shining, brownish or pallid; spores angular, generally with a single nucleus, .00035′–.0004′ in diameter.

Plant 1′ high, pileus 5″–10″ broad, stem .5″–1″ thick.

Ground in woods. Northampton, Fulton county. August.

Dedicated to *Mr. Sereno Watson.*

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* One accent (′) denotes inch or inches, two accents (″) denote line or lines.

AGARICUS (PHOLIOTA) DETERSIBILIS *n. sp.*

Pileus hemispherical or convex, thin, densely coated with small erect pyramidal or spinulose scales, ochraceous-brown; lamellæ broad, plane, close, reaching the stem, slightly attached, pallid then cinnamon-brown; stem equal, stuffed or hollow, squamulose below the obsolete ring, colored like the pileus, often curved; spores unequally elliptical, .0003′–.00035′ long.

Plant about 1′ high, pileus 6″ broad, stem 1″ thick.

Decaying trunks of deciduous trees in woods. Lake Pleasant. August.

The small soft scales are rubbed off easily, whence the specific name. I suspect that under more favorable conditions the plant may grow considerably larger than the dimensions given.

AGARICUS (HEBELOMA) COLVINI *n. sp.*

Pileus fleshy, convex or expanded, sometimes gibbous or broadly umbonate, rarely centrally depressed, glabrous grayish or alutaceous inclining to pale ochre; lamellæ close, broad, emarginate or rounded behind, whitish or pallid becoming brownish; stem flexuous, silky-fibrillose, stuffed or hollow, solid toward the base, whitish; spores subelliptical, .0004′-.0005′ long.

Plant 2′–4′ high, pileus 1′–3′ broad, stem 1″–3″ thick.

Sand hills near West Albany. October.

This interesting species is dedicated to *Mr. V. Colvin*, to whom is due the credit of its discovery. Its habitat is peculiar, being the clear drifting sand of the plains west of Albany. The mycelium binds the sand together in a mass which adheres to the base of the stem. A cricket was observed feeding upon the pileus of a small specimen.

COPRINUS SEYMOURI *n. sp.*

Cæspitose, fragile; pileus thin, soon expanded, smooth or sprinkled with minute granular scales, dark-brown, the disk sometimes with a reddish tinge, strongly striate or subplicate, the thin margin soon splitting and revolute; lamellæ close, narrow, reaching the stem, brown then black; stem equal, hollow, smooth or slightly pulverulent, white; spores broadly ovate, compressed, .00025′-.0003′ long, .0002′–.00025′ broad.

Plant 3′–4′ high, pileus 8″–12″ broad, stem 1″ thick.

Clay soil. Albany. October.

It is allied to *O. micaceus*, but is thinner, more fragile, darker in color, with more narrow lamellæ which are darker in the young plant. The species is respectfully dedicated to *Hon. H. Seymour*.

HYGROPHORUS MARGINATUS *n. sp.*

Fragile; pileus subcampanulate or expanded, often irregular or lobed, sometimes broadly umbonate, glabrous, shining, often minutely rimose, striatulate on the thin margin, bright golden-yellow; lamellæ rather broad, subdistant, ventricose, emarginate, often venose-connected, yellow, becoming more highly colored with age, the edge generally changing to orange or vermilion; stem smooth, hollow, often flexuous or irregular, pale yellow; spores subelliptical, about .0003′ long.

Plant 2′ high, pileus about 1′ broad, stem 1″–2″ thick.

Ground in woods. Northville. August.

This seems to be the American analogue of the European *H. obrusseus*. After considerable hesitation I have ventured to separate it as a species because of its smaller size and the red color of the edge of the lamellæ, a singular character which has suggested the specific name.

HYGROPHORUS PARVULUS *n. sp.*

Pileus thin, hemispherical or convex, smooth, hygrophanous, striatulate on the margin when moist, sulphur-yellow; lamellæ, subdistant, arcuate, adnate or decurrent, pale-yellow or whitish; stem equal, smooth, hollow, pale-yellow or luteous.

Plant 1′ high, pileus 3″–4″ broad.

Ground in woods and under *Pteris aquilina*. Northville and Lake Pleasant. August. (Plate 1, figs. 20–24.)

The stem and pileus are slightly viscid when young and moist. The stem is sometimes more highly colored than the pileus, an unusual feature in the Agaricini.

HYGROPHORUS PECKIANUS *Howe.*

Ground under *Pteris aquilina*. Lake Pleasant. August.

LACTARIUS AQUIFLUUS *n. sp.*

Pileus fragile, fleshy, convex or expanded, at length centrally depressed, dry, smooth, or sometimes appearing as if clothed with a minute appressed tomentum, reddish tan-

colored, the decurved margin often flexuous; lamellæ rather narrow, close, whitish, becoming dull reddish yellow; stem more or less elongated, equal or slightly tapering upward, colored like the pileus, smooth, hollow, the cavity irregular as if eroded; spores subglobose, rough, .0003′ in diameter; flesh colored like the pileus; milk sparse, watery.

Plant 3′–8′ high, pileus 3′–6′ broad, stem 5″–10″ thick.

Swamps and wet mossy places in woods. Sandlake and North Elba. August and September.

The relationship of this plant is with *L. serifluus*, to which it was formerly referred, but from which I am now satisfied it is distinct. The hollow stem is a constant character in our plant, and affords a ready mark of distinction. The plant, though large, is very fragile, and breaks easily. The taste is mild or but slightly acrid. Sometimes there is an obscure zonation on the pileus, which, in large specimens, is apt to be irregular and much worm-eaten. The milk looks like little drops of water when first issuing from a wound, but it becomes a little less clear on exposure to the atmosphere. The decided but agreeable odor of the dried specimens persists a long time.

CANTHARELLUS PRUINOSUS *n. sp.*

Pileus convex, even or slightly umbilicate, pruinose, white; lamellæ distant, simple, long-decurrent; stem slender, slightly enlarged above, pruinose, whitish.

Plant scarcely 1′ high, pileus 2″–3″ broad.

Ground in pastures. Sageville, Hamilton county. August.

The small size and white mealy pruinosity are distinguishing features in this species. But for the obtuse edge of the lamellæ it might readily be taken for some small Omphalia, especially as the lamellæ are not branched.

LENTINUS UMBILICATUS *n. sp.*

Pileus fleshy, thin, tough, smooth, deeply umbilicate hygrophanous, brownish tan-colored when moist, paler when dry; lamellæ crowded, adnate or decurrent, serrate on the edge, whitish; stem slender, short, smooth, nearly even, tough, stuffed or hollow, central or eccentric, colored like the pileus.

Plant about 1′ high, pileus 6″–12″ broad, stem 1″ thick.

Ground and old logs. Lake Pleasant. August. (Plate 1, figs. 15–19.)

It is related to *L. cochleatus*, which it resembles in color

and texture, but it is a much smaller plant, with a more slender and not sulcate stem. It is gregarious in habit. The form with eccentric stem grew on decaying logs, and has the stem more or less curved.

BOLETUS ROBUSTUS *Frost.*

Borders of woods. Sandy Creek, Oswego county. July.

BOLETUS CHROMAPES *Frost.*

Woods. Northville. August.

POLYPORUS STEPHENSII *Berk.*

Under side of spruce logs in woods. Indian Lake. July. It forms patches several feet in extent.

HYDNUM AURANTIACUM *Batsch.*

Ground. Albany. August.

HYDNUM AURISCALPIUM *L.*

Old cones of Scotch fir. Oneida. *H. A. Warne.* Autumn.

MICHENERA AETOCREAS *B. & C.*

Dead branches of black ash, *Fraxinus sambucifolia.* Lake Pleasant. August.

The hymenium in our specimens is of a dull reddish or pale chestnut color, and the spores are generally bluntly pointed or beaked, but the species is so singular that I have no doubt of the correctness of the determination.

CORTICIUM GIGANTEUM *Fr.*

Pine wood and bark. Albany.

CORTICIUM COLLICULOSUM *B. & C.*

Dead branches. North Greenbush.

STEREUM CANDIDUM *Schw.*

Bark of trees. Gowanda, Erie county. *G. W. Clinton.*

CYPHELLA MUSCIGENA *Fr.*

Mosses on precipices in woods. Lake Pleasant. August.

SOLENIA FILICINA *n. sp.*

Cups springing from an ochraceous, white-margined, tomentose subiculum, elongated, clavate or cylindrical, deflexed, clothed with appressed hairs or tomentum, ochra-

ceous; spores hyaline, broadly fusiform, pointed at the ends, containing one or two nuclei, .0004′ long.

Base of living fern stems. Lake Pleasant. August.

The basal part of the cups sometimes turns brown and shrinks in size, so that they appear as if stipitate. Both the habitat and the effused stratum of tomentum are noteworthy features.

CLAVARIA RUGOSA *Bull.*

Ground in woods. Northampton and Sageville. August.

CLAVARIA PULCHRA *n. sp.*

Simple, small, about 1′ high, club elongate-clavate, obtuse, yellow, sometimes a little darker at the apex, gradually tapering into the whitish or pale yellow stem-like base.

Ground and decaying wood in damp shaded places. Northville and Chittenango Falls. August. (Plate 1. fig. 10.)

A pretty species, associated with *C. fusiformis* in both localities, but differing from it in shape and habit.

CLAVARIA GRACILLIMA *n. sp.*

Simple, very slender, smooth, about 1′ high, rather tough; club acute or acuminate, pale yellow, a little thicker than the long slender distinct bright yellow shining stem.

Among moss in a pasture. Northville. August. (Plate 1, fig. 9.)

In this species, as in *C. argillacea*, the hymenium is quite distinct from the stem.

TYPHULA GREVILLEI *Fr.*

Fallen leaves. Lake Pleasant. August.

The stem in our specimens is not distinctly pilose.

TREMELLA VESICARIA *Bull.*

Ground in damp shaded places. Oneida. *Warne.* Albany and Greenbush.

TREMELLA MYCETOPHILA *n. sp.*

Suborbicular, depressed, gyrose-plicate, tremelloid-fleshy, slightly pruinose, yellowish or pallid, 4″–8″ broad.

Stem and pileus of *Agaricus dryophilus.* Oneida. *Warne.* North Elba. August. (Plate 1, fig. 4.)

ÆTHALIUM GEOPHILUM *n. sp.*

Effused in small irregular masses, whitish or yellowish, sometimes with a slight pinkish tinge; spores globose, colorless, .00016′–.0002′ in diameter.

Damp ground in woods. Sageville. August.
The small size and colorless spores furnish the distinguishing characters of this species.

DIDERMA FLAVIDUM *n. sp.*

Cæspitose, small, external peridium thick, pale yellow or lemon color outwardly, white within, rupturing irregularly, inner peridium delicate; flocci white; spores black, globose, minutely rough, .0005′ in diameter.

Among moss on decaying wood. Lake Pleasant. August.

DIDYMIUM OXALINUM *n. sp.*

Small, sessile, scattered or crowded, subglobose or elongated and somewhat confluent, plumbeus; peridium thin, clothed with a minute whitish mealiness, whitish when evacuated, tawny or reddish-brown within at the base; columella white, subglobose; flocci slender, colored; spores globose, blackish-brown, with a purplish tinge, .00033′–.00035′ in diameter.

Living leaves and petioles of wood sorrel, *Oxalis Acetosella*. Williamstown, Oswego county. July.

DIDYMIUM SUBROSEUM *n. sp.*

Peridium subglobose, externally farinaceous, pinkish-white; stem short, white, equal or slightly tapering upward; flocci white; spores globose, smooth, purplish-black, 00033′ in diameter.

Bark of butternut trees, *Juglans cinerea*. Williamstown. July.

DIDYMIUM FLAVIDUM *n. sp.*

Peridium subglobose; sessile, thin, yellow, clothed with a minute yellow mealiness; spores subglobose, black, .0004′ in diameter.

Bark of dead balsam trees, *Abies balsamea*. North Elba. August.

DICTYDIUM UMBILICATUM *Schrad.*

Decaying wood. North Greenbush. June.

LICEA OCHRACEA *n. sp.*

Peridia short, connate, springing from a white gelatinous hypothallus, coated externally with a minute golden-yellow or bright-ochraceous mealiness; spores globose, purplish black, .0004′ in diameter.

Living grass and club moss, *Lycopodium annotinum*. Lake Pleasant. August.

The tufts or patches are small and when moist are of a brown color, but upon drying the yellow color of the minute branny scales or mealiness becomes apparent.

PHOMA PALLENS *B. & C.*

Dead stems of woodbine, *Ampelopsis quinquefolia*. North Greenbush. June.

PHOMA MARLÆ *Clinton n. sp.*

Perithecia minute, punctiform or subhysteriform, covered by the epidermis, black; spores oblong-elliptical somewhat pointed, hyaline, with a nucleus near each end, .00033′ long.

Living stems of *Lonicera flava* and *L. Tartarica*. Buffalo. *Clinton*. November and January.

Dedicated to *Miss Mary L. Wilson*.

SPHÆROPSIS WILSONI *Clinton n. sp.*

Perithecia minute, punctiform, slightly prominent, covered by the epidermis which at length ruptures longitudinally, black; spores oblong-elliptical, colored, .0008′–.0009′ long.

Living stems of *Lonicera flava*. Buffalo. *Clinton*. January.

SPHÆROPSIS CLINTONII *n. sp.*

Perithecia minute, scattered, innate, black; spores elliptical or oblong-elliptical, colored .0005′–.0007′ long.

Decorticated maple wood. Buffalo. *Clinton*. January.

SPHÆROPSIS SQUIEKIÆ. *Clinton n. sp.*

Perithecia small, numerous, covered by the epidermis which ruptures longitudinally, black; spores subglobose, colored, .0007′–.0008′ long.

Dead stems of *Aristolochia tomentosa*. Buffalo. *Clinton*. January.

SPHÆROPSIS SAMBUCI *n. sp.*

Perithecia subglobose, scattered or subcespitose, rather prominent, erumpent, surrounded by the ruptured epidermis, black; spores oblong, colored, .0006′–.0008′ long.

Dead branches of elder, *Sambucus Canadensis.* North Greenbush, November.

Sphaeropsis mutica and *S. macropsora* are said to inhabit the elder, but the former is described as having very small hyaline spores, and the latter as having much larger subfusiform spores.

SPHÆROPSIS BIFORMIS *n. sp.*

Perithecia scattered, erumpent, some minute, rupturing the epidermis slightly, others larger, rupturing the epidermis distinctly, and generally longitudinally; spores variable, obovate elliptical or oblong, sometimes curved, colored, .0006′–.001′ long.

Dead branches of ash, *Fraxinus Americana.* Albany. May.

SPHÆRONEMA OXYSPORUM *Berk.*

Old *Merulius tremellosus.* Forestburgh. September.

SPHÆRONEMA CONFORME *n. sp.*

Perithecia scattered, erumpent, with a long, rigid, spine-like black ostiolum; globule whitish; spores subfusiform, generally curved, often with one or two nuclei, .0006′–.0008′ long.

Dead branches of apple trees. Center. June.

Almost exactly like *S. Spina* and *S. Magnoliæ* externally, but the spores afford distinguishing characters.

DIPLODIA HERBARUM *Lev.*

Dead stems of *Thalictrum cornuti.* Buffalo. *Clinton.*

HENDERSONIA SARMENTORUM *West.*

Dead bark of grape vines. North Greenbush. June.

HENDERSONIA PECKII *Clinton n. sp.*

Perithecia minute, punctiform, covered by the epidermis which is at length ruptured, black; sporophores long, slen-

der; spores oblong, slightly colored, triseptate, shorter than the sporophores, from which they soon separate, .0005′–.0007′ long.

Living stems of *Lonicera flava*. Buffalo. *Clinton*. January.

HENDERSONIA MARIÆ *Clinton n. sp.*

Perithecia as in the preceding species; sporophores shorter than the spores, persistent; spores oblong, often a little curved, five-septate, colored, with the basal cell and sometimes also the apical cell hyaline, about .001′ long.

Living stems of *Lonicera flava*. Buffalo. *Clinton*. January.

SEPTORIA SCROPHULARIÆ *n. sp.*

Spots small, arid, whitish, surrounded by a purplish-rown border; perithecia few, on the upper surface; spores filiform, curved, hyaline, .001′–.0016′ long.

Living leaves of *Scrophularia nodosa*. Buffalo. *Clinton*. Albany. June.

SEPTORIA RHOIDIS *B. & C.*

Leaves of sumach. Forestburgh. September. Buffalo. *Clinton*. October.

SEPTORIA VERBASCICOLA *B. & C.*

Leaves of *Verbascum Blattaria*. Buffalo. *Clinton*. August. The specimens agree with those distributed under this name by the late Dr. Curtis, but so far as I am aware no description has ever been published.

SEPTORIA MACULOSA *Ger.*

Leaves of *Cuphæa viscosissima*. Poughkeepsie. *W. R. Gerard*.

SEPTORIA WILSONI *Clinton n. sp.*

Spots scattered, suborbicular, arid, whitish or pallid, surrounded by a darker border; perithecia minute, blackish; spores filiform, more or less curved, sometimes nucleate, .0015′–.002′ long.

Leaves of *Chelone glabra*. Buffalo. *Clinton*.

SEPTORIA SAMBUCINA *n. sp.*

Spots arid, whitish, surrounded by a broad, dark margin, brown or purplish-brown on the lower surface; perithecia on the upper surface, few, minute; spores long, filiform, more or less curved, obscurely three to six-septate, .002′–.003′ long.

Leaves of elder, *Sambucus Canadensis*. Buffalo. *Clinton*. October.

VERMICULARIA COPTINA *n. sp.*

Perithecia minute, slightly prominent, black, with a tuft of divergent one or two-septate hairs at the apex; spores curved, pointed at each end, hyaline, .0008′–.001′ long.

Dead or dying leaves of gold thread, *Coptis trifolia*. Buffalo. *Clinton*. Sandlake and Sandy Creek. June to October.

DINEMASPORIUM PEZIZULA *B. & C.*

Decaying elder wood. New Baltimore. *Rev. J. L. Zabriskie*. North Greenbush. May and June.

BLASTESIS TRIDENS *Zab.*

Living quince leaves. Flatbush, Long Island. *Zabriskie*.

ASTEROMA ROSÆ *DC.*

Leaves of *Rosa rubiginosa*. Buffalo. *Clinton*. October.

CYTISPORA MICHENERI *B. & C.*

Dead ash branches. Angola. *Clinton*. Greenbush. May. It sometimes renders the branch rough for several feet.

DISCELLA DISCOIDEA *C. & P.*

Erumpent, discoid, reddish when moist, black or blackish when dry, surrounded by the lacerated epidermis which splits in a somewhat stellate manner; perithecia obsolete above; sporophores long, branched or simple, the branches subclavate; spores abundant, oblong or elliptical, colorless, .0008′–.0012′ long, containing a granular endochrome.

Dead branches of the water beech, *Carpinus Americana*. Greenbush. May. (Plate 1, figs. 34–37.)

MELANCONIUM DISSEMINATUM *Fr.*

Decaying wood. Richmondville and Hunter. June and July.

The masses of spores often occupy the summit of little protuberances of the wood, as if the fungus prevented or retarded the decay and wasting away of the woody tissues immediately beneath it.

MELANCONIUM OBLONGUM *B. & C.*

Bark of butternut trees, *Juglans cinerea*. Greenbush. May.

MELANCONIUM MINUTISSIMUM *Schw.*

Bark of *Platanus occidentalis*. Buffalo. *Clinton*. April.

CORYNEUM DISCIFORME *var.* ELLIPTICUM *B. & Br.*

Dead birch branches. Yonkers. *Howe*.

CORYNEUM KUNZEI *Cd.*

Dead branches of white birch, *Betula populifolia*. West Albany. May.

PESTALOZZIA INSIDENS *Zab.*

Bark of Elm trees. New Baltimore. *Zabriskie*. Hunter, Greene county. April and June.

The spores in this species are .0011'–.0015' in length, exclusive of the long bristles at the extremities. There are generally four central colored cells.

PESTALOZZIA ROSTRATA *Zab.*

Bark of Lonicera and of apple trees. New Baltimore. *Zabriskie*.

Externally this species closely resembles the preceding, but the spores are smaller, being .001' long, and have no bristle at the base. There are usually four central colored cells. I cannot distinguish the spores of this from those of *P. concentrica B. & R.*, from which, therefore, it differs only in habit and habitat, and to which it ought perhaps to be united.

PESTALOZZIA PECKII *Clinton n. sp.*

Pustules thickly scattered over the surface of the leaf or over indefinite grayish spots, erumpent, black; spores

straight or slightly curved, subfusiform, pale, with two or three colored central cells and a hyaline cell at each extremity, .0006′–.0007′ long exclusive of the single short sometimes deciduous apical bristle; pedicels slender, hyaline, about as long as the colored part of the spore.

Under surface of fallen oak leaves, *Quercus alba*. Buffalo. *Clinton*. May.

The apical hyaline cell is somewhat elongated and abruptly contracted into the short straight erect bristle. The species is allied to *P. hysteriiformis*, from which it differs in its much paler spores, more numerous orbicular pustules and absence of spots or in having its indefinite spots not at all concentrically divided.

SEPTONEMA BICOLOR *n. sp.*

Sori small, scattered, varying in color from yellowish to blackish, generally dark olivaceous with a paler or yellowish center; spores elliptical-oblong, somewhat irregular; multicellular, at length rough and opaque.

Decorticated surface of wood. Forestburgh. September.

The species is similar in habit to *S. spilomeum*, but the threads of spores are coarser, the sori are different in color and the spores are both transversely and vertically septate, making them multicellular, although this is seen with difficulty except in the younger spores.

SPORIDESMIUM LEPRARIA *Berk.*

Decaying wood. Sandlake, Rensselaer county.

PUCCINIA BULLARIA *Lk.*

Stems of Sanicula. New Baltimore. *Howe.*

PUCCINIA SMILACIS *Schw.*

Leaves of *Smilax rotundifolia*. Shelter Island. *Clinton.*

PUCCINIA DAYI *Clinton n. sp.*

Spots suborbicular, brown, sori prominent, scattered or confluent, brown; spores oblong-clavate, slightly constricted, .0015′–.0023′ long; peduncle slightly colored, one-half to wholly as long as the spore.

Leaves of *Lysimachia ciliata*. Buffalo. *Clinton.*

Very closely related to *P. Gerardii*, differing chiefly in the darker color of the spots and sori. Dedicated to Mr. D. F. Day.

PUCCINIA CLINTONII *n. sp.*

Spots obliterated; sori amphigenous, clustered or scattered, brown; spores oblong, slightly constricted, .0011′–.0014′ long.

Leaves of Pedicularis. Goat Island. *Clinton.* October.

PUCCINIA SORGHI *Schw.*

Leaves of Indian corn. Buffalo. *Clinton.* West Albany.

UROMYCES GRAMINUM *Cooke.*

Leaves of *Bryzopyrum spicatum.* Shelter Island. *Clinton.* September.

USTILAGO DESTRUENS *Duby.*

Spikes of *Setaria glauca.* Bethlehem. Albany county. September.

PROTOMYCES MENYANTHIS *De Bary.*

Leaves of *Menyanthes trifoliata.* Buffalo. *Clinton.* August.

PERIDERMIUM COLUMNARE *A. & S.*

Leaves of Hemlock trees. *Abies Canadensis.* Sandlake. July.

The more elongated peridia and the yellow or orange colored spores distinguish this species from *P. balsameum.*

ÆCIDIUM DRACONTIATUM *Schw.*

Leaves of *Arisæma Dracontium.* North Greenbush. June.

This species occurs also on leaves of *Arisæma triphyllum.*

CYSTOPUS AMARANTHI *Schw.*

Amaranth leaves. Albany. June and July.

STILBUM AURIVILUM *Ger.*

On *Dædalea unicolor.* Ponghkeepsie. *Gerard.*

STILBUM CANDIDUM *n. sp.*

White, when dry slightly tinged with yellow, scarcely one line high, scattered, erumpent from minute chinks in

the matrix; head obovate or subglobose; stem slightly tapering upward; spores oblong, colorless, .0004′–.0005′ long.

Dead stems of *Amphicarpæa monoica*. Portville. September. (Plate 1, figs. 25–27.)

STACHYBOTRYS LOBULATA *Berk.*

Damp wall paper. Albany. September.

HAPLOGRAPHIUM APICULATUM *n. sp.*

Flocci simple, septate, black, the tips slightly thickened and papillose; spores almond-shaped, very unequal in size, .0002′–.00066′ long, with a minute apiculus at each end, forming branched moniliform cinereous threads, which diminish in size upward.

Discolored elongated-conical galls of witch hazel leaves. Bethlehem. September. (Plate 1, figs 28–33.)

The galls which this fungus inhabits are those of a plant louse, *Brysocrypta Hamamelidis* Fitch. *Messrs. J. A. Lintner* and *H. F. Bassett.*

MONOTOSPORA BISEPTATA *n. sp.*

Effused, black; flocci erect, simple, septate, slightly thickened at the base, bearing at the apex a single obovate, at first pale and uniseptate, then colored and biseptate spore, .0011′–.0013′ long, .0007′ broad, with the basal cell generally paler than the others.

Decaying wood. Gowanda. *Clinton.* October. (Plate 1, figs. 5–8.)

The specimens are accompanied by *Sphæria hirsuta.*

HELMINTHOSPORIUM URTICÆ *n. sp.*

Flocci forming elongated effused blackish velvety patches, septate, knotty, sometimes slightly branched, the tips paler; spores cylindrical, obtuse, triseptate, colored, about equal in diameter to the flocci, but much shorter, .0006′–.001′ long.

Dead nettle stems. Greenbush. May.

MACROSPORIUM SAPONARIÆ *n. sp.*

Spots arid, suborbicular; flocci short, stout, septate, obtuse, colored; spores oblong-clavate, brown or oliva-

ceous-brown, five to ten-septate, .002′–.0036′ long, including the very short concolorous peduncle.

Leaves of soapwort, *Saponaria officinalis*. Greenbush. September.

The spores are often longer than the flocci.

NEMATOGONUM AURANTIACUM *Desm.*

Cut surface of a birch stump. Lake Pleasant. August.

PERONOSPORA OBLIQUA *Cooke.*

Living leaves of yellow dock, *Rumex crispus*. North Greenbush, October.

PERONOSPORA GERANII *n. sp.*

Effused, sometimes occupying the whole under surface of the leaf, whitish, the flocci irregularly branched, branches short, divaricately spreading, the apices not swollen, furnished with short slender spicules; acrospores globose, .0006′ in diameter.

Living leaves of *Geranium maculatum*. North Greenbush. June.

Related by its spiculose branches to *P. gangliformis*.

ERYSIPHELLA *nov. gen.*

Perithecia destitute of appendages, spores definite.

This genus differs from *Perisporium* in having a definite number of spores in an ascus, and from *Uncinula*, *Microsphæra* and *Erysiphe* in being destitute of appendages.

ERYSIPHELLA AGGREGATA *n. sp.*

Mycelium obscure or concealed; perithecia numerous, densely crowded, subglobose, glabrous, reddish-brown or black; sporangia numerous, ten to twenty, varying from oblong-ovate to subclavate; spores eight, broad, elliptical, .0008′–.0009′ long, .0005′–.0006′ broad.

Fertile aments of alders. North Greenbush. May. (Plate 2, figs. 1–3.)

The perithecia are densely aggregated in the interstices of the aments, giving them a compact blackened appearance. Usually a white meal-like substance more or less involves and, with the crowded perithecia, conceals the mycelium. Sometimes nearly all the aments in a cluster are covered by this fungus.

MICROSPHÆRA PLATANI *Howe.*

Leaves of buttonwood, *Platanus occidentalis.* Yonkers *Howe.*

MICROSPHÆRA SYMPHORICARPI *Howe.*

Leaves of snowberry, *Symphoricarpus racemosus.* Yonkers. *Howe.*

MICROSPHÆRA MENISPERMI *Howe.*

Leaves of moonseed, *Menispermum Canadense.* Yonkers. *Howe.*

MICROSPHÆRA ABBREVIATA *n. sp.*

Mycelium thin; conceptacles small; appendages six to fifteen, hyaline, rough, shorter than the diameter of the conceptacles, many times dichotomous at the tips, the ultimate ramuli curved; sporangia three or four, containing three to five, mostly four, spores; spores large, .001′–.0013′ long, .00066′ broad.

Under surface of dead or languishing oak leaves. Buffalo. *Clinton.* (Plate 2, figs. 4–5.)

Allied to *M. Hedwigii*, from which it is separated because of the short scabrous appendages, etc.

MICROSPHÆRA VAN BRUNTIANA *Ger.*

Living leaves of elder, *Sambucus Canadensis.* Poughkeepsie. *Gerard.* Buffalo. *Clinton.* Oneida. *Warne.* West Albany and Sandlake. July to September.

This species is described as having eight spores in a sporangium, but I have not been able to detect more than four in the specimens which I have examined.

CHÆTOMIUM LANOSUM *n. sp.*

Perithecia small, subglobose, scattered or crowded, densely covered with long woolly hairs, which are either dingy-olivaceous or mouse-colored; asci short, broad, fugacious; spores subglobose, at first pale, then slightly colored, .0003′–.00035′ in diameter, containing a single large nucleus.

On herbarium specimens of grasses. Albany. May.

The soft woolly appearance of the hairs suggests the specific name.

GEOGLOSSUM VELUTIPES *n. sp.*

Subcæspitose, black; club short, compressed; stem densely clothed with a very black velvety pubescence; asci lanceolate; spores fasciculate, at first simple or triseptate, then elongated and nine to eleven-septate, brown, .002′–.005′ long; paraphyses septate, recurved at the tips.

Ground in hemlock woods. Oneida. *Warne.* Northville. August.

This species is easily distinguished both by its somewhat cæspitose habit and its very black hairy stem. The difference between the young and the mature spores is quite noticeable. I have not seen specimens of *G. Walteri*, a hairy species from Australia, but as it is said to have the spores seven-septate it must be distinct from our plant.

PEZIZA ONOTICA *Pers.*

Ground in woods. Williamstown and Northville. August.

P. unicisa is deemed only a form of this species.

PEZIZA REPANDA *Wahl.*

Ground and decaying wood. Croghan. September.

This is not rare in woods and in damp shaded places. It is quite variable in size and in the degree of expansion of the cups.

PEZIZA PALLIDULA *C. & P.*

Decaying beech wood. Croghan. September.

PEZIZA OMPHALODES *Bull.*

Burnt ground. Sandlake. August.

When confluent, as it often is, it has more the appearance of some Corticium than of a Peziza.

PEZIZA FUSICARPA *Ger.*

Ground. Poughkeepsie. *Gerard.* North Greenbush and Williamstown. August.

This, according to specimens received from Dr. Curtis, is the *P. velutina* B. & C. in his Catalogue of North Carolina Plants.

PEZIZA SEPULTA *Fr.*

Sand hills near West Albany. October.

Little openings in the sand reveal the places where these plants lie concealed.

PEZIZA OVILLA *n. sp.*

Small, 1″–2″ in diameter, at first closed and subglobose, then open, cup-shaped or concave, rather firm, minutely tomentose, whitish, the disk sometimes tinged with pink; asci cylindrical; spores fusiform, large, one or two nucleate, .0013′–.0016′ long.

Ground in woods. Sageville. August.

PEZIZA CLANDESTINA *Bull.*

Dead stems of raspberry, *Rubus strigosus.* Sandlake. June.

PEZIZA HYALINA *Pers.*

Decaying wood. Center. June.

PEZIZA CUCURBITÆ *Ger.*

Squashes. Poughkeepsie. *Gerard.*

PEZIZA CINEREA *Batsch.*

Decaying wood. Worcester and Portville. July and September.

PEZIZA CORNEOLA *C. & P.*

Subgregarious, erumpent, soon naked, elevated, pitchy-black, coriaceous or horny; cups at first sphæroid, opening by a narrow paler mouth, opaque, subrugose, at length cup-shaped, margin inflexed, disk pallid tawny-gray; asci clavate or cylindrical; spores narrowly elliptical, binucleate, hyaline, .0004′–.0005′ long.

Decaying stems of herbs. North Greenbush. June.

PEZIZA ATROCINEREA *Cooke.*

Dead stems of Solidago. Albany. June.

PEZIZA SUBATRA *C. & P.*

Gregarious, erumpent, black, soft or waxy; cups at first hemispherical, then open, smooth or slightly rugose, disk fuliginous, margin paler; asci subcylindrical; spores cylindrical, straight or curved, with two or three nuclei, .0006′ long.

Dead stems of herbs. North Greenbush. June.

The species is allied to *P. atrata*, *P. ebuli* and *P. sphæroides*, but it differs in fruit and in the more fibrous structure of the cup.

PEZIZA SCIRPINA *n. sp.*

Minute, scattered, erumpent, glabrous, black externally, paler or grayish within; asci oblong; spores crowded, fusiform, straight or slightly curved, binucleate, colorless, .0008′–.001′ long.

Dead stems of *Scirpus cæspitosus*. Adirondack Mountains. July.

PEZIZA PTERIDIS *A. & S.*

Dead fern stems. North Greenbush. June.

HELOTIUM PILEATUM *n. sp.*

Subhemispherical or pileiform, stipitate, smooth, whitish, under surface flattened and slightly pruinose; stem rather long, white, pruinose; spores oblong, hyaline, .0004′–.0005′ long.

Decaying herbaceous stems in wet places. Hunter, Greene county. June. (Plate 1, figs. 11–14.)

The fresh plant, which is scarcely half an inch high, looks like some very small white Agaricus.

HELOTIUM SALICELLUM *Fr.*

Dead willow twigs. Buffalo. *Clinton.* Dead grape vines. Albany. October.

DERMATEA CINNAMOMEA *C. & P.*

Subcæspitose, erumpent, subsessile, surrounded by the ruptured epidermis, somewhat coriaceous, externally pulverulent, cinnamon colored, margin involute, disk brown, nearly plane, somewhat angular when dry; asci elongated-clavate; spores narrowly elliptical, simple, .0005′ long.

Dead branches of poplars. Shandaken. June.

PATELLARIA FUSISPORA *C. & P.*

Gregarious immarginate, dull black, orbicular, regular, convex, lenticular, somewhat coriaceous; asci cylindrical, attenuated at the base; spores lanceolate, uniseptate at first with each cell binucleate, ultimately brown,

.0008′–0009′ long, .0002′ broad; paraphyses slender, simple, slightly thickened above.

Decaying wood. Portville. September.

PATELLARIA DISPERSA *Ger.*

Bark of *Juniperus Virginiana*. Poughkeepsie. *Gerard.* New Baltimore. *Howe.*

PATELLARIA FENESTRATA *C. & P.*

Scattered, dull black, somewhat soft and waxy when moist, discoid, rather irregular when dry, margin rounded, elevated, contracted when dry, disk plane or convex, sometimes depressed or umbilicate in the center; asci subclavate; spores four to eight, involved in mucus, large, pyriform, multiseptate, fenestrate, brown, .0018′–.002′ long; paraphyses slightly clavate.

Dead branches of poplar. Center. October and November.

This species closely resembles the preceding one, but it is less scattered in its mode of growth, the spores are longer in proportion to their breadth, and are involved in mucus.

SPHINCTRINA TIGILLARIS *B. & Br.*

On *Polyporus abietinus*. Albany. Buffalo. *Clinton.*

The spores in our specimens are .0003′–.0006′ long.

CENANGIUM AUCUPARIÆ *Fr.*

Dead branches of mountain ash, *Pyrus Americana*. Keene, Essex county. July.

CENANGIUM RUBI *Fr.*

Dead stems of raspberry. North Greenbush. May.

CENANGIUM DEFORMATUM *n. sp.*

Small, crowded or scattered, at first irregular or subspherical then opening at the top and becoming discoid with an irregular or ruptured margin, black; spores crowded, elliptical, at first pale with the endochrome centrally parted, then colored and uniseptate, .0011′–.0013′ long.

Dead bark of *Juniperus Virginiana*. Greenbush. May.

When young the plants resemble some small irregular Sphæria. They sometimes manifest a tendency to grow in lines.

STICTIS PUPULA *Fr.*

Dead poplar branches. Center. October and November.

STICTIS HYSTERINA *Fr.*

Decorticated pine branches. Guilderland. May.

STICTIS QUERCINA *n. sp.*

Amphigenous, scattered, minute, erumpent, the epidermis split into three or four blunt lacinise or teeth; disk white; asci subcylindrical; spores filiform, .0016′–.0026′ long.

Fallen oak leaves. Port Jervis. September.

It is related to *S. phacidioides*, from which its amphigenous habit and fewer blunt teeth will separate it.

RHYTISMA URTICÆ *Fr.*

Dead nettle stems. Greenbush. May. Sterile.

HYSTERIUM VIXVISIBILE *Ger.*

Dead branches. Poughkeepsie. *Gerard.*

I am not fully satisfied that this is any thing more than a small variety of *H. angustatum*.

HYSTERIUM CLAVISPORUM *C. & P.*

Dead stems of reeds, *Phragmites communis*. Buffalo. *Clinton*. Tyre. September.

The spores are colored and multiseptate, and by their clavate form suggest the specific name.

HYSTERIUM ROUSSELII *De Not.*

Decaying wood. Tyre and Lake Pleasant. August and September.

HYSTERIUM MAGNOSPORIUM *Ger.*

Decaying hickory wood. Poughkeepsie. *Gerard.*

COLPOMA LACTEUM *n. sp.*

Perithecia scattered, erumpent, thin, black, the longitudinally ruptured epidermis closely appressed; disk plane, milk white; asci subcylindrical or clavate; spores filiform, .002′–.003′ long.

Dead stems of Labrador tea, *Ledum latifolium*. Sandlake. June.

When moist the perithecium gaps widely, revealing the conspicuous white disk. This and the different habit distinguish the species from *Xyloma Ledi*.

AILOGRAPHUM SUBCONFLUENS *n. sp.*

Perithecia, small, numerous, thin, scattered, or subconfluent; orbicular, elliptical or elongated, black; asci oblong; spores oblong-clavate, hyaline, .003′–.004′ long.

Dead stems of herbs. North Greenbush. June.

This appears to the naked eye much like some Leptostroma.

TORRUBIA CLAVULATA *Schw.*

On dead scale insects of black-ash branches. Lake Pleasant. August.

Schweinitz describes his *Sphæria clavulata* as growing on a fibrillose-membranaceous shield-shaped subiculum which adheres closely to the bark of living branches of oak trees, *Quercus palustris* and *Q. coccinea*. Our plant grows on the flattened discolored or blackened bodies of a scale insect found on living branches of *Fraxinus sambucifolia*. Notwithstanding this difference in habitat and a slight discrepancy in the arrangement of the perithecia, the species is so remarkable and so well characterized that I cannot believe our plant to be specifically distinct. It is the smallest Torrubia known to me, and does not well agree with the generic character. It occurs on young and half grown as well as on full grown insects, but I have not been able to determine whether it attacks the insect while living or only after death.

TORRUBIA SUPERFICIALIS *n sp.*

Slender, about 1′ high, smooth, brown, the sterile apex gradually tapering to a point; perithecia crowded, superficial, subglobose, blackish-brown, sometimes collapsed, with a small papilliform ostiolum; asci cylindrical; spores long, slender, filiform.

Under hemlock trees on buried larvæ. Northville. August.

Related to and intermediate between *T. Ravenelii* and *T. Carolinensis*. The stem of the plant is about equal in length to the club or perithecia-bearing part. The perithecia are more loosely placed at the extremities of the club, thereby giving it a subfusiform shape. The spores are more slender than those of *T. Carolinensis* but the plant itself is less elongated and slender.

EPICHLOE TYPHINA *Berk.*

Living stems of Carex. Oneida. *Warne.*

I do not know that this plant has before been detected in this country.

NECTRIA SANGUINEA *Fr.*

Cut surface of maple wood. Williamstown. July.

HYPOXYLON FUSCOPURPUREUM *Schw.*

Old rails and decaying wood. Sandlake.

HYPOXYLON SASSAFRAS *Schw.*

Bark of *Sassafras officinale.* Yonkers. *Howe.*

DOTHIDEA LINDERÆ *Ger.*

Dead stems of the spice bush, *Lindera Benzoin.* Albany. October.

MELOGRAMMA BULLIARDI *Tul.*

Bark of hornbeam. La Salle, Niagara county. *Clinton.* May.

DIATRYPE ASPERA *Fr.*

Dead stems of Cornus. Tyre. September.

DIATRYPE DISCOIDEA *C. & P.*

Stroma orbicular or elliptical, transversely erumpent, surrounded by the epidermis, disk naked, plane, grayish-black; ostiola small, scarcely exserted, nearly smooth or four to six sulcate, perithecia six to twelve, ovate; asci small, linear-clavate, stipitate, polysporous; spores cylindrical, curved or straight, slightly colored, .0002′ long; paraphyses filiform.

Dead branches of white birch, *Betula populifolia.* Center. October.

When the outer bark is torn away the fungus comes off with it. The species belongs to the subgenus Diatrypella and is closely related to *D. quercina.* There are two forms, one with the stroma small, narrow, and transversely erumpent, the other larger and suborbicular.

DIATRYPE PROMINENS *Howe.*

Bark of *Platanus occidentalis.* Yonkers. *Howe.*

DIATRYPE ANOMALA *n. sp.*

Pustules prominent, subrotund or elliptical, 1″–2″ in diameter, erumpent, penetrating the wood, generally with a thin black crust beneath and around them, the disk convex or slightly depressed, rough, brown or black, sometimes whitish-pulverulent; perithecia crowded, deeply imbedded in the stroma, often elongated; ostiola scattered or crowded, convex, often radiate-sulcate, black; asci short, broad, fir-gacious; spores crowded, elliptical, simple, often with a nucleus at each end, colorless, .0003′–.0035′ long.

Stems of hazel bushes living or dead. Albany. May.

The pustules sometimes appear in long lines or series. The peculiar and anomalous character of this species is found in its unusual spores and in its attacking living stems.

MELANCONIS BICORNIS *Cooke.*

Perithecia circinating, five to seven, seated beneath the epidermis which is but slightly elevated; ostiola short, convergent, just piercing the epidermis, with a regular orifice; spores expelled when mature, blackening the matrix round the ostiola, fasciculate, obtusely fusiform, straight or curved, triseptate, brown, .0026′–.0033′ long, scarcely constricted, ultimate cells smallest, each extremity tapering into a hyaline at first straight then curved or flexuous cornute appendage, one-half to one-third the length of the spore.

Bark of *Platanus occidentalis.* La Salle. *Clinton.* Greenbush. March and May.

Allied to *Melanconis Berkelei* Tul., but distinct. When the epidermis is torn away, the perithecia come off with it. They are slightly whitish-floccose or tomentose above.

VALSA PRUNASTRI *Fr.*

Dead branches of plum or cherry. Greenbush. June.

VALSA RUBI *n. sp.*

Perithecia crowded, irregular, black, white within, forming a small pustule which is covered by the whitened epidermis; ostiola crowded, piercing and generally obliterating

the minute rusty-brown erumpent disk, not prominent, black; asci subclavate; spores eight, curved, simple, colorless, .0003′–.0004′ long.

Dead stems of blackberry, *Rubus villosus*. Forestburgh. September.

The epidermis is paler in the patches where the pustules occur. The disk appears to the naked eye like a minute black dot though it usually contains from eight to sixteen ostiola. The species is clearly distinct from *S. rubincola* Schw.

VALSA WOOLWORTHI *n. sp.*

Minute, erumpent; perithecia two to six, nestling in the inner bark; ostiola crowded, slightly prominent, barely exserted through the longitudinally ruptured epidermis; spores crowded or biseriate, oblong or subfusiform, uniseptate, mostly four-nucleate, nearly colorless, .0004′ long.

Dead oak or hickory branches. Greenbush. May.

The clusters of perithecia are very numerous and usually occur in series, the epidermis being ruptured continuously from one to another. Respectfully dedicated to *Hon. S. B. Woolworth.*

VALSA LEIPHEMIA *Fr.*

Dead oak branches. North Greenbush. May.

VALSA OXYSPORA *n. sp.*

Pustules scattered, subconical, erumpent, blackish externally, surrounded by the triangularly or stellately ruptured epidermis; perithecia sunk to the wood, when broken off leaving a whitish spot circumscribed by a faint blackish line; ostiola few, short; spores crowded or biseriate, colorless, oblong-elliptical, slightly constricted in the middle, uniseptate, quadrinucleate, with a bristle-like appendage at each end, .0006′ long.

Dead oak branches. Sandlake. August. (Plate 2, figs. 26–29.)

VALSA OBSCURA *n. sp.*

Pustules minute, sunk to the wood, erumpent; ostiola three to eight, slightly prominent; asci subcylindrical;

spores crowded or biseriate, simple or obscurely uniseptate, oblong, narrower toward one end, hyaline, with a minute bristle at each end, .0008′ long.

Dead stems of raspberry, *Rubus strigosus*. Albany. May.

The septum is not always clearly visible. When present it divides the spore into two unequal parts.

The appendages are so small as to be easily overlooked.

The bark is generally stellately split over the pustules.

VALSA MUCRONATA *n. sp.*

Perithecia four to eight, rather large, nestling in the inner bark, surrounded by a black line; ostiola separately erumpent, not collected in a disk, slightly prominent, black, sometimes circumscribed by an obscure black line; asci lanceolate; spores crowded, large, uniseptate, colorless, .0016′–.0021′ long, generally with a short appendage or mucro at each end.

Dead willow branches. Sandlake. September. (Plate 2, figs. 10–13.)

This species is very distinct both in its separately erumpent ostiola and in its spores. The appendages are so short as to resemble a little mucro, whence the specific name. It is an aberrant species, the ostiola not agreeing well with the generic character.

VALSA ACERINA *n. sp.*

Pustules small, erumpent; perithecia sunk in the wood, covered above by a thin blackish crust and surrounded by a black line; ostiola prominent, elongated-conical or cylindrical; spores oblong or subelliptical, subacute, colorless, .0005′ long, the endochrome one to three times divided.

Dead branches of *Acer spicatum*. Indian Lake. July.

VALSA SUFFUSA *Fr.*

Dead alder branches. Buffalo. *Clinton.*

VALSA FEMORALIS *n. sp.*

Pustules small; perithecia few, nestling in the inner bark; ostiola few, black, short, erumpent through small and mostly transverse chinks, crowded or scattered; asci

lanceolate; spores crowded, elongated, sublinear, straight or slightly flexuous, obtuse, slightly thickened at the ends, .0018′–.003′ long.

Dead alder branches. West Albany and Greenbush. Also on dead branches of basswood. Buffalo. *Clinton.*

Closely related to *Valsa suffusa*, but the spores are shorter and thickened at each end and the ostiola are not always crowded in the center of the disk. The perithecia adhere to the epidermis and are torn away with it. The name is suggested by the resemblance of the spores to a *femur*.

VALSA SAMBUCINA *n. sp.*

Pustules erumpent, sometimes seriately placed; ostiola slightly prominent, even or radiately sulcate, scattered or crowded; asci linear; spores eight, uniseriate, oblong, colored, triseptate, .0005′–.0006′ long.

Dead stems and branches of elder. Catskill Mountains. June.

When young the spores are paler. The pustules vary much in size, those on the branches being larger and more scattered than those on the main stems or trunks.

CUCURBITARIA ALNEA *n. sp.*

Perithecia cæspitose, erumpent, astomous, black, white within, the tufts closely surrounded by the transversely ruptured epidermis; spores uniseriate, uniseptate, subacuminate, constricted at the septum, nearly colorless, with one or two nuclei in each cell, .0008′–.001′ long.

Dead alders, Center. May.

Torula alnea is associated with this species and may be a condition of it.

CUCURBITARIA SERIATA *n. sp.*

Perithecia cæspitose, erumpent in long flexuous interrupted lines, small, nearly globose, black, white within, sometimes collapsing, the stroma if present merely cortical and subferruginous; asci cylindrical or subclavate; spores uniseriate or rarely crowded, uniseptate, oblong-elliptical, slightly constricted at the septum, hyaline, .0004′–.0005′ long.

Dead bark of Euonymus. Albany. October. *Dr. C. Dewol.*

LOPHIOSTOMA JEEDONI *B. & Br.*

Bark of elm. New Baltimore. *Zabriskie.* Dead stems of raspberry. West Albany. October.

LOPHIOSTOMA SCROPHULARIÆ *n. sp.*

Perithecia scattered, minute, covered by the epidermis; ostiola small, compressed, piercing the epidermis; asci cylindrical; spores crowded or biseriate, subfusiform, uniseptate, with two large nuclei in each cell, strongly constricted at the septum and sometimes also between the nuclei, straight or slightly curved, colorless, .001′ long.

Dead stems of *Scrophularia nodosa.* Green Island. October.

Sometimes a small additional nucleus is seen at the extremities of the spore, thus making three in each cell. The smaller spores will separate this species from *L. angustilabra* and *L. sexnucleata*, to which it is related.

LOPHIOSTOMA TRISEPTATA *n. sp.*

Perithecia scattered, sunk in the wood, black, with a narrow compressed ostiolum; asci linear; spores uniseriate, rarely crowded, oblong-elliptical, triseptate, colored, .0006′–.0007′ long, slightly constricted at the septa.

Decaying wood. Buffalo. *Clinton.* Sterling. Cayuga county. August.

LOPHIOSTOMA SPIRÆÆ *n. sp.*

Perithecia scattered, sunk to the wood, closely covered by the bark which is pierced by the compressed ostiola; spores crowded or biseriate, elongated-fusiform, straight or curved, colorless, about seven-septate, usually with a nucleus in each cell, .0016′–.0023′ long.

Dead branches of *Spiræa opulifolia.* Rhinebeck. June.

The septa of the spores are not very distinct, especially toward the extremities. The nuclei are not regularly placed, and sometimes one or two very small additional ones occur in some of the cells. Rarely one of the central cells is swollen.

LOPHIOSTOMA MACROSTOMA *Fr.*

Bark of maple trees. Northampton. August.

The spores in our specimens are a little longer than in the European plant, and are occasionally nine-septate. The ter-

minal cells, too, are slightly colored, but paler than the others.

SPHÆRIA CALLISTA *B. & C.*

Dead branches of *Cornus alternifolia*. Buffalo. *Clinton*. Sandlake. Autumn and spring.

I do not know that any description of this species has been published, but our specimens agree with those representing it in Ravenel's *Fungi Exsiccati Caroliniani*. The perithecia become pezizoid-collapsed, and the asci contain numerous small curved colorless spores, as in some species of Nectria.

SPHÆRIA PHÆOSTROMOIDES *n. sp.*

Conidia. Flocci simple or branched, septate, some of them nodose, globosely inflated at the apex; spores apical, oblong, obtuse, uniseptate, centrally constricted, colored, .0005′–.0007′ long.

Ascophore. Perithecia gregarious, minute, globose, then collapsing, rugulose, seated on a black subiculum; asci subfusiform; spores crowded, subfusiform or cylindrical, slightly curved, triseptate, colored, .001′ long, the terminal cells colorless, the others sometimes nucleate.

Dead branches lying on the ground. North Greenbush. September. (Plate 2, figs. 30-35.)

This plant appears to be the American analogue of *S. phæostroma*, from which it scarcely differs except in its shorter spores and uniseptate conidia. So closely does the subiculum of our plant resemble *Cladotrichum triseptatum*, that it might readily be taken for a Cladotrichum with uniseptate spores.

SPHÆRIA SUBCORTICALIS *n. sp.*

Perithecia rather large, thin, sometimes collapsed, black, involved in a dense blackish-brown tomentum which is sometimes confluent, forming a subiculum; spores oblong, colorless, .0003′ long.

Dead bark of water beech, *Carpinus Americana*. North Greenbush. June.

When the perithecia are crowded the tomentum runs together forming a subiculum, when scattered, it surrounds each separately. They are seated on the inner bark and are entirely concealed by the epidermis. When this is torn away the perithecia usually come off with it. The specific

name is given in allusion to the place of growth. This and the two preceding species belong to the *Byssisedæ*.

SPHÆRIA HIRTISSIMA *n. sp.*

Perithecia scattered or crowded, superficial, ovate or subglobose, black, densely clothed with rather short rigid black hairs; asci linear; spores uniseriate, broadly elliptical or subglobose, colored, .0005′ long.

Decaying pine wood. Center. November.

The perithecia are a little smaller than those of *S. hirsuta*. The asci are quite fugacious. The species belongs to the *Villosæ*.

SPHÆRIA EXIMIA *n. sp.*

Perithecia free, ovate or subconical, clothed with short hairs, black; ostiola smooth, papilliform; spores crowded, elliptical, colored, .001′–.0012′ long, with a very long fine hyaline appendage at each end, the base of one attached to a firm tapering point or process at one end of the spore.

Dung of hares in wet places. Kasoag, Oswego county. July. (Plate 2, figs. 14–17.)

This species is remarkable for the extremely long, slender appendages which are several times the length of the spore.

SPHÆRIA VALSOIDES *n. sp.*

Perithecia sunk in the matrix, scattered, black, with a few rigid bristle-like processes at the apex; asci subclavate; spores crowded or biseriate, oblong-elliptical, at first greenish, then brown, .0011′–.0013′ long, generally with a single nucleus and a short stem-like colorless appendage at the base.

Cow dung. Sageville. August.

The caudate appendage is usually about half as long as the spore. The erect processes at the apex of the perithecia are suggestive of a minute species of Valsa, whence the specific name.

SPHÆRIA MINIMA *Awd.*

Dung of hares. Providence. Also on horse dung. Bethlehem. August and September.

SPHÆRIA CANINA *n. sp.*

Perithecia minute, scattered or crowded, free, subglobose,

reddish-brown or dark amber color, then blackish; asci broad, oblong or oblanceolate; spores numerous, elliptical, slightly colored, .00025′–.0003′ long.

Dung of dogs. Bethlehem. May.

SPHÆRIA ACERVALIS *var.* JUNIPERI *West.*

Dead wood and branches of red cedar, *Juniperus Virginiana*. Buffalo. *Clinton.*

SPHÆRIA MONOSPERMA *n. sp.*

Perithecia scattered, convex or hemispherical, partly covered by the fibres of the wood, smooth, black, pierced; asci oblong or lanceolate, containing a single spore; paraphyses numerous, filiform; spores very large, oblong or subfusiform, obtuse, fenestrate, sometimes obscurely multiseptate, yellowish or pale-brown, .003′–.006′ long.

Decorticated birch wood. Forestburgh. September. (Plate 2, figs. 36–39.)

Remarkable for producing but one spore in an ascus. When young the asci are filled with a granular endochrome which is gradually absorbed in the formation in each of a single large cellular spore which scarcely differs in color from the original contents of the ascus. In the best developed specimens the ostiolum when magnified appears to occupy the center of a small orbicular depressed disk.

SPHÆRIA SCORIADEA *Fr.* *Verrucaria conferta* Tayl.

Dead birch branches. Center. June.

There is some doubt whether this is a fungus or a lichen.

SPHÆRIA PLATANICOLA *Howe.*

Branchlets of *Platanus occidentalis*. Yonkers. *Howe.*

SPHÆRIA PULICARIS *Pers.*

Dead stems of Indian corn. North Greenbush. October.

Not having access to Persoon's description, our specimens were determined by comparison with those in Ravenel's *Fungi Exsiccati Carolinïani*. *Sphæria pulicaris* Fr., now referred to the genus Nectria, seems to be different.

SPHÆRIA RUBEFACIENS *n. sp.*

Perithecia minute, scattered, subglobose, smooth, black, nearly free, abruptly tapering into the long slender subulate

osticola; asci clavate, fugacious; spores elliptical, colored, .00018′–.0002′ long, .00012′ broad.

Decorticated wood of deciduous trees. Forestburgh. September. Buffalo. *Clinton.*

The surface of the wood on which it grows is variegated with red stains, whence the specific name. The long osticola crowned by the mass of spores have the appearance of some minute species of Calicium. The plant belongs to the *Ceratostomæ*, and is closely related to *Sphæria pilifera*, but the type of that species grows on pine wood and produces no red stains. Its spores appear to be unknown, and unless they shall be found to correspond with those above described, this must be considered a distinct species.

SPHÆRIA URTICÆ *Rabh.*

Dead stems of nettles. Greenbush. May.

The spores are shorter in our specimens than the dimensions given in the description, but this difference is probably only varietal.

SPHÆRIA DATURÆ *Schw.*

Dead stems of *Datura Tatula*. Buffalo. *Clinton.* October.

SPHÆRIA TUBÆFORMIS *Tode.*

Fallen alder leaves. West Albany. May.

SPHÆRIA MIRABILIS *n. sp.*

Perithecia scattered, innate, subglobose, membranaceous, tough, black, osticola long, slender, curved or flexuous, lateral; asci broadly fusiform; spores crowded, elongated, subfusiform, hyaline, generally four to many-nucleate, .0011′–.0013′ long, with a slight appendage at one or both ends.

Fallen birch leaves. Bethlehem. June. (Plate 2, figs. 18–21.)

The species is remarkable for its lateral osticola, which are about equal in length to the diameter of the perithecia.

SPHÆRIA PERISPORIOIDES *B. & C.*

Upper surface of living leaves of *Desmodium Canadense*. I find no description of this species, and make the determination by comparison with Ravenel's specimens in *Fungi Exsiccati Caroliniani*, with which ours agree in habit,

although his occur on Rhyncosia leaves and are destitute of fruit. To this extent ours must be regarded as doubtful.

SPHÆRELLA OBLIVIA *Cooke.*

Fallen leaves of *Rhododendron maximum.* Buffalo. *Clinton.*

SPHÆRELLA CARPINEA *Fr.*

Fallen leaves of *Carpinus Americana.* Buffalo. *Clinton.* North Greenbush. May.

SPHÆRELLA SPARSA *Awd.*

Fallen leaves of beech and basswood. Buffalo. *Clinton.* Also on chestnut leaves. North Greenbush. May.

SPHÆRELLA INDISTINCTA *n. sp.*

Perithecia minute, innate, slightly prominent, scattered or subgregarious, globose, black; asci subcylindrical, .0014′–.0018′ long; spores crowded, elongated, hyaline, simple or obscurely uniseptate, .001′–.0011′ long, generally slightly curved.

Dead leaves of *Pteris aquilina.* Center. June.

The perithecia are so small as to be easily overlooked. The spores are quite unlike those of *Sphærella Pteridis*, being twice as long and not distinctly septate.

SPHÆRELLA ORBICULARIS *n. sp.*

Perithecia minute, innate, covered by the epidermis which is at length pierced or ruptured, occupying distinct or subconfluent orbicular brownish spots; asci subcylindrical; spores oblong, uniseptate, colored, .0004′–.0005′ long.

Upper surface of fallen poplar leaves. Center and North Greenbush. June.

The spots on the leaves resemble those of *Venturia orbicula* on oak leaves. Sometimes the epidermis peels off revealing the perithecia beneath. These are often more numerous near the margin of the spot than in the center.

VENTURIA MYRTILLI *Cooke.*

Fallen leaves. New Scotland. Albany county. June.

VENTURIA MACULANS *n. sp.*

Perithecia very minute, innate, seated on small irregular more or less confluent grayish-brown spots, crowned by a

few rigid black hairs or setæ; asci rather broad, often narrowed above; spores crowded or biseriate, at first hyaline, then yellowish, uniseptate, with the cells unequal, slightly constricted at the septum, .00035′–.0005′ long.

Fallen leaves of *Betula populifolia*. Center. May.

VENTURIA CLINTONII *n. sp.*

Gregarious in indeterminate suborbicular patches; perithecia nearly free, globose, black, hispid with few straight black bristles; asci linear; spores obovate, uniseriate, uniseptate, yellowish or yellowish-brown, .0004′ long, the septum usually nearest the small end.

Under surface of fallen leaves of *Cornus circinata*. Buffalo. *Clinton*. May. (Plate 2, figs. 22–25.)

The decidedly colored uniseriate spores afford a peculiar character in this species.

VENTURIA KALMIÆ *n. sp.*

Perithecia minute, prominent, centrally aggregated on small orbicular brown spots or scattered along the midrib, black-bristly with straight rigid divergent black hairs; asci subcylindrical, .0013′ long; spores oblong or subfusiform, minutely nucleate, .00035′ long.

Upper surface of living leaves of *Kalmia glauca*. Kasoag-July. (Plate 2, figs. 6–9.)

The affected leaves are the older ones occupying the lower part of the stem.

NEW STATIONS OF RARE PLANTS, REMARKS AND OBSERVATIONS.

BRASENIA PELTATA *Pursh.*

Mud Pond near the base of Mt. Dix. Also in many other lakes and ponds of the Adirondack region. *V. Colvin.*

SOLEA CONCOLOR *Ging.*

Manlius. *Wibbe.* Pine Plains. *L. H. Hoyeradt.* "New Lebanon near the Shaker Settlement." *Beck Herbarium.*

POTENTILLA TRIDENTATA *Ait.*

Top of Stissing Mountain near Pine Plains. *Hoysradt.*

AMELANCHIER CANADENSIS V. OLIGOCARPA *T. & G.*

The fruit of this variety, as it occurs in the Adirondack region, is ellipsoid. It is not quite as juicy and pleasant to the taste as the globose fruit of the other varieties.

NARDOSMIA PALMATA *Hook.*

Buttermilk Glen, Ithaca. *Prof. Prentiss. G. W. Wood.* Machias, Wyoming county. *Clinton.*

RHODODENDRON MAXIMUM *L.*

Machias. *Clinton.* Also near West Hurley, Ulster county.

PRIMULA MISTASSINICA *Mx.*

Fall Creek Gorge, Ithaca. *Prof. Prentiss.*

PINGUICULA VULGARIS *L.*

Cascadilla Ravine, Ithaca. *Prof. Prentiss.* Portage. *Clinton.*

AMARANTUS SPINOSUS *L.*

Waste places about Brooklyn. *M. Ruger.*

ARCEUTHOBIUM PUSILLUM *Pk.*

Kasoag, Oswego county; also Providence, Saratoga county, thus making five counties in the State in which this plant has been found. In all these localities it inhabits spruces in low grounds or marshes. At Kasoag there are a few dead trees giving evidence of having been inhabited by this parasite to which possibly their death is due.

ABIES BALSAMEA *Marshall.*

This occurs in the Stony Clove, Catskill Mountains, in a prostrate or ascending bush-like form resembling the common juniper, the American yew and the prostrate form of the black spruce as it is found on the high Adirondack summits.

ARISÆMA TRIPHYLLUM *Torr.*

This plant with us is quite constantly dicœcious. During two or three successive seasons I have examined scores of plants in various localities in the vain effort to find a specimen with monœcious inflorescence. Can it be that the monœcious character is giving way, under altered climatic conditions, to a dicœcious one?

TRILLIUM ERECTUM V. ALBUM *Pursh.*

Ithaca. *Prof. Prentiss.*

ALLIUM CANADENSE *Kalm.*

Alluvial banks of the Hudson. North Greenbush. June.

SCLERIA VERTICILLATA *Muhl.*

Near Woodside, Long Island. *Kruger.* Mr. Kruger observes that the fresh plant has a pleasant vanilla-like odor. Rev. J. A. Paine also speaks of its fragrance.

ORYZOPSIS CANADENSIS *Torr.*

Sandy soil near Center.

POA ALSODES *Gray.*

Shaded banks. Catskill Mountains.

MILLIUM EFFUSUM *L.*

Stony Clove, Catskill Mountains.

PANICUM AGROSTOIDES *Spreng.*

Near Northampton, Fulton county.

ASPIDIUM NOVEBORACENSE V. FRAGRANS.

New Pond, Essex county. *Mrs. L. A. Millington.* Mrs. Millington observes that the fronds are very tall, "sometimes three feet high," that the sori at length spread over the whole under surface and that there is a marked vanilla-like odor which persists even in the dried specimens.

LYGODIUM PALMATUM *Sw.*

Hunter. This, so far as I know, is the only New York station for this rare fern. The credit of its discovery belongs, I believe, to *Miss M. C. Reynolds.* Fertile specimens have been sent me by *Mr. J. T. Lockwood.*

BOTRYCHIUM LANCEOLATUM *Angst.*

Near Northampton and Northville. August.

AZOLLA CAROLINIANA *Willd.*

Black Creek near Oneida Lake. *Warne.*

PANNARIA PETERSII *Tuck.*

The specimen reported under this name and also those reported as *Verrucaria pinguicula* Mass. are not in good condition and therefore uncertain. *Willey.*

AGARICUS ADMIRABILIS *Pk.*

A variety with brown pileus and white stem was found at Lake Pleasant associated with the typical form.

AGARICUS SYLVATICUS *Schæff.*

Ground under pine trees. Northampton. August.

CORTINARIUS SQUAMULOSUS *Pk.*

This species was discovered in 1869 and had not since been observed by the writer until the past season. It is manifestly a species of rare occurrence.

PHALLUS IMPUDICUS *Fr.*

When this plant begins to decay the odor is extremely offensive and not unfrequently is the first intimation given of the presence of the fungus. The carrion beetle, *Necrophila Americana*, sometimes feeds upon this loathsome substance, doubtless deeming it equal to putrefying flesh.

PHYSARUM CÆSPITOSUM *Pk.*

Since the publication of this species I find that the name was preoccupied, and as a reexamination shows it to be a better Licea than Physarum, I would substitute *Licea cæspitosa* Pk. for the above name.

PUCCINIA MESOMAJALIS *B. & C.*

The species published under this name has been redescribed in Grevillea, by Rev. M. J. Berkeley under the name *Puccinia mesomegala* B. & C.

USTILAGO MONTAGNEI *Tul.*

On *Rhynchospora glomerata*. Long Island. *Miller.*

The spores are a little larger than in the form found on *R. alba*. It is probably *U. Montagnei* var. *major* Desm.

PHRAGMIDIUM MUCRONATUM *Lk.*

The typical form occurs on rose leaves in Oneida. *Warne.*

American specimens generally have the spores more opaque and with two or three more septa than the typical form. This variant form might be called var. *Americanum.*

PERIDERMIUM ELATINUM *A. & S.*

Glens Falls. *Mrs. Millington.* Also in Stony Clove, Catskill mountains. Thus far we have seen it on the leaves of the balsam only, and several interesting and peculiar features are indicated. Unlike our other species this one attacks *all the leaves* on an affected branch. These have a sickly yellowish hue, stand out on all sides of the branch and do not attain more than half their usual size. They fall off each year so that leaves are found only on the *terminal* shoots of the affected branches, the internodes of the previous years being entirely destitute of foliage. The fungus therefore appears in reality to be *perennial*, for having once attacked a branch it reappears year after year on the successive crops of leaves, apparently loosening its vampire-like hold only upon the death of the branch. Fortunately it spreads only *outwardly* or in the direction of growth. Hence all the affected branches of a tree if traced back will be found to have a common origin and at this common starting point there is usually a swollen or seemingly injured place in the main branch. From this point the ramification becomes excessive and crowded, exactly similar to that so often seen in spruce trees when attacked by *Arceuthobium pusillum*. All the branches given off below this point are unaffected, all given off above it are affected. Whether the fungus originates this affected point in the branch or not is yet a question, also how long an affected branch will continue to live and support its parasite and whether by the application of sulphur or any other antidote the fungus may be killed and the life of the branch preserved. An obvious remedy would be to cut off the branch below the affected point.

MORCHELLA ESCULENTA *Fr.*

This species, with us as in Europe, is quite variable. The most common form about Albany is whitish or pallid throughout and answers to the variety *rotunda* except in the form of the pileus which is obtusely conical rather than rounded. Whenever I have met with this form it has been under or in the vicinity of pine trees. Another form has

the pileus narrowly conical and darker colored than the stem, which is frequently equal to the pileus in diameter. This is nearest the variety *conica*. It has been found at Albany, *Prof. J. Hall*, and near Utica, *Hon. H. Seymour*. A third form has the stem quite long, even exceeding the pileus in length. It merits the name of variety *longipes*. I have seen dried specimens only and do not know the color of the fresh specimens. They were collected near Oneida by *H. A. Warne*.

SPATHULARIA FLAVIDA *Pers.*

There are two varieties of this, one having a pale or whitish stem, the other having a reddish-brown or bay stem. I do not find the pileus hollow, though it is said to be so in some descriptions.

GEOGLOSSUM GLUTINOSUM *Pers.*

Our specimens were erroneously referred to this species, the description on which we relied making no mention of the fruit. Our plant has been separated by reason of the different spores and is *Geoglossum Peckianum* Cooke.

TORRUBIA OPHIOGLOSSOIDES *Tul.*

Northville and Lake Pleasant.

XYLARIA CORNIFORMIS *Mont.*

A variety occurs with the club irregular and much flattened or compressed. It might be called variety *irregularis*.

HYPOXYLON MORSEI *B. & C.*

There is a variety of this in which the stroma is confluent in patches an inch or more in diameter. It is found on dead poplar branches. Sandlake.

DOTHIDEA PTERIDIS *Fr.*

Mrs. Millington sends an early state of this plant in which there are no asci but numerous spore-like bodies (spermatia ?) oblong, colorless, .0004′–.0005′ in length. When moist they ooze out and form a whitish or pale amber-colored globule.

MELANCONIS ELLIPTICA *Pk.*

Further observation induces me to place this species in the genus Diatrype. The spores are sometimes .0018′ long. When young they are six nucleate.

In the preceding pages when no name is added to the station or stations the plant has been found therein by the writer. Dates signify the time of collecting the specimens and therefore indicate to some extent the time of the occurrence of the plant.

Grateful acknowledgments are rendered to those Botanists whose names appear in the preceding pages, for their kind aid and their generous contributions of specimens.

Respectfully submitted,

CHARLES H. PECK.

ALBANY, *January* 13, 1875.

1874

EXPLANATION OF PLATES.

EXPLANATION OF PLATE I.

AGARICUS (LEPIOTA) PUSILLOMYCES *Peck.*

Page 48.

Fig. 1. Two plants of ordinary size.
Fig. 2. Vertical section of a pileus.
Fig. 3. Spores × 400.

TREMELLA MYCETOPHILA *Peck.*

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Fig. 4. Three plants of ordinary size growing on *Agaricus dryophilus.*

MONOTOSPORA BISEPTATA *Peck.*

Page 62.

Fig. 5. A block of wood bearing a patch of plants.
Fig. 6. A plant bearing an immature spore × 400.
Fig. 7. A plant bearing a mature spore × 400.
Fig. 8. Detached spores × 400.

CLAVARIA GRACILLIMA *Peck.*

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Fig. 9. Two plants of ordinary size.

CLAVARIA PULCHRA *Peck.*

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Fig. 10. Two plants of ordinary size.

HELOTIUM PILEATUM *Peck.*

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Fig. 11. Piece of an herb stem bearing three plants of ordinary size.
Fig. 12. A plant magnified.
Fig. 13. An ascus containing spores × 400.
Fig. 14. Spores × 400.

LENTINUS UMBILICATUS *Peck.*

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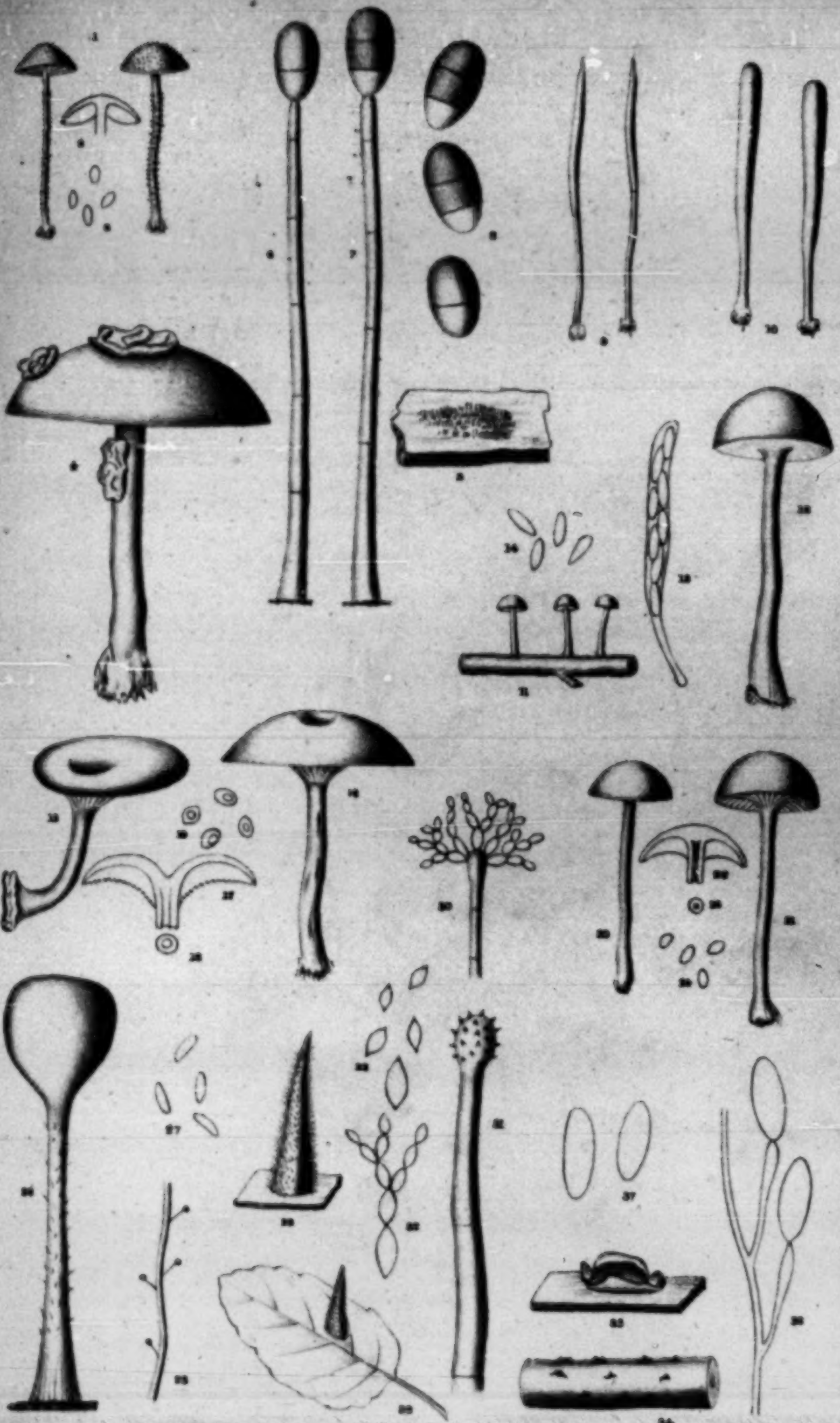
Fig. 15. A plant of ordinary size with the stem eccentric.
Fig. 16. A plant of ordinary size with the stem central.
Fig. 17. Vertical section of a pileus.
Fig. 18. Transverse section of a stem.
Fig. 19. Spores × 400.



Lith of Weed, Parsons & Co. Albany, N.Y.

PLATE I—(*Continued*).

HYGROPHORUS PARVULUS *Peck.*

Page 50.

Fig. 20. A plant of ordinary size.
Fig. 21. A larger plant, showing the lamellæ.
Fig. 22. Vertical section of a pileus.
Fig. 23. Transverse section of a stem.
Fig. 24. Spores × 400.

STILBUM CANDIDUM *Peck.*

Page 61.

Fig. 25. Piece of a stem bearing four plants of ordinary size.
Fig. 26. A plant magnified.
Fig. 27. Spores × 400.

HAPLOGRAPHIUM APICULATUM *Peck.*

Page 62.

Fig. 28. A leaf with its fungus-bearing gall.
Fig. 29. The gall and its hairy coating of fungi slightly magnified.
Fig. 30. Upper part of a plant bearing strings of spores, magnified.
Fig. 31. Upper part of a plant deprived of its spores, × 400.
Fig. 32. A branched string of spores × 400.
Fig. 33. Separate spores × 400.

DISCELLA DISCOIDEA *C. & P.*

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Fig. 34. Piece of a branch bearing the fungus.
Fig. 35. A pustule and its matrix magnified.
Fig. 36. A fertile filament bearing spores × 400.
Fig. 37. Spores × 400.

PLATE II.

ERYSIPHELLA AGGREGATA *Peck*.

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Fig. 1. An alder catkin coated by the fungus.
Fig. 2. A conceptacle and its mycelium magnified.
Fig. 3. A sporangium containing spores × 400.

MICROSPHÆRA ABBREVIATA *Peck*.

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Fig. 4. Part of the circumference of a conceptacle and two appendages × 400
Fig. 5. A sporangium containing spores × 400.

VENTURIA KALMIÆ *Peck*.

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Fig. 6. A leaf bearing the fungus.
Fig. 7. A perithecium magnified.
Fig. 8. An ascus containing spores × 400.
Fig. 9. Spores × 400.

VALSA MUCRONATA *Peck*.

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Fig. 10. Piece of a branch bearing the fungus.
Fig. 11. A single cluster of the fungus magnified.
Fig. 12. An ascus containing spores × 400.
Fig. 13. Spores × 400.

SPHÆRIA EXIMIA *Peck*.

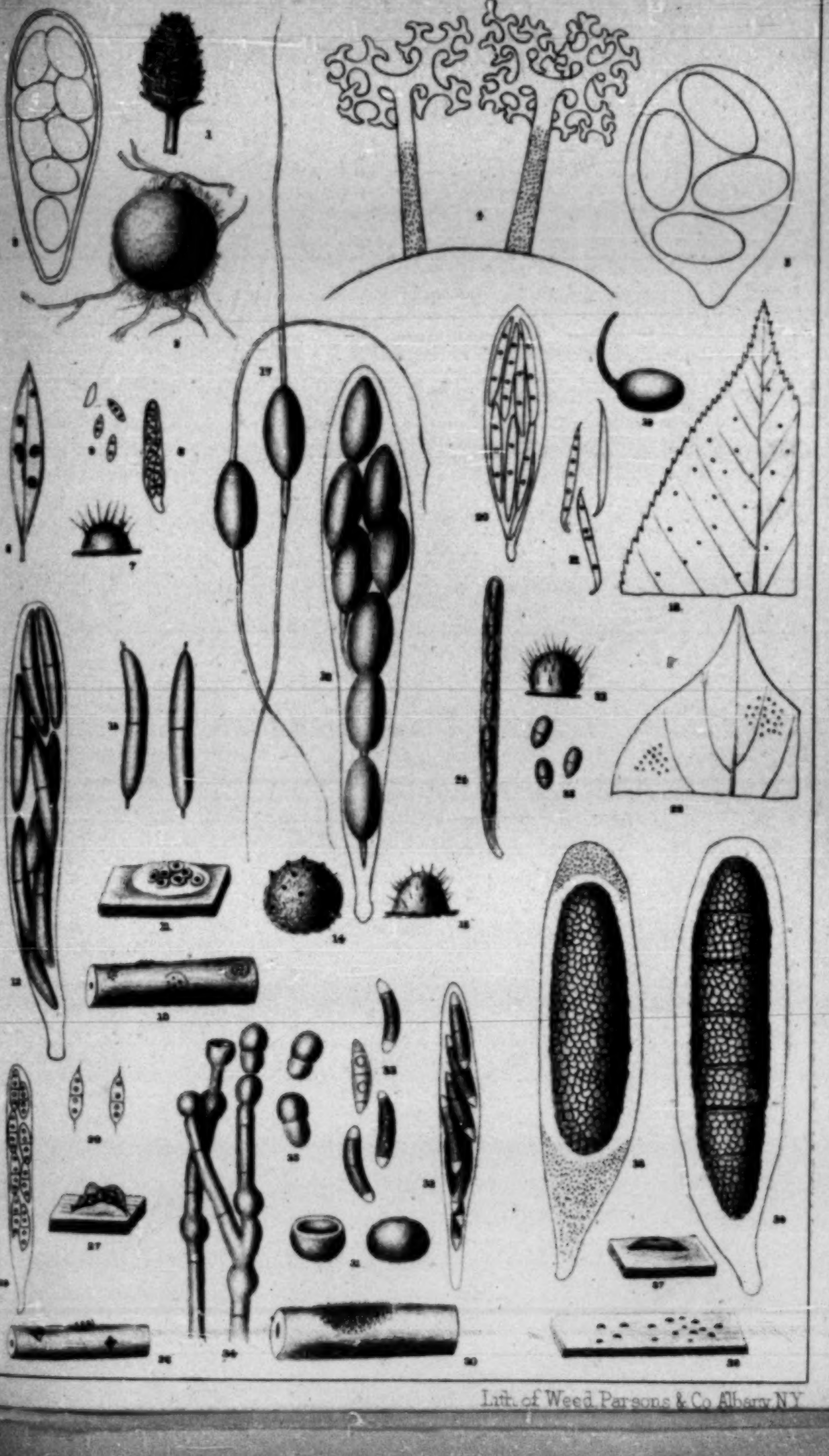
Page 78.

Fig. 14. Several perithecia attached to the matrix.
Fig. 15. A perithecium magnified.
Fig. 16. An ascus containing spores × 400.
Fig. 17. Spores × 400.

SPHÆRIA MIRABILIS *Peck*.

Page 80.

Fig. 18. Part of a leaf bearing the fungus.
Fig. 19. A perithecium magnified.
Fig. 20. An ascus containing spores × 400.
Fig. 21. Spores × 400.



Litt. of Weed Parsons & Co. Albany N.Y.

PLATE II—(*Continued*).

VENTURIA CLINTONII *Peck.*

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Fig. 22. Part of a leaf bearing the fungus.
Fig. 23. A perithecium magnified.
Fig. 24. An ascus containing spores × 400.
Fig. 25. Spores × 400.

VALSA OXYSPORA *Peck.*

Page 73.

Fig. 26. Piece of a branch bearing the fungus.
Fig. 27. A pustule with its matrix magnified.
Fig. 28. An ascus containing spores × 400.
Fig. 29. Spores × 400.

SPHÆRIA PHÆOSTROMOIDES *Peck.*

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Fig. 30. Piece of a branch bearing the fungus.
Fig. 31. Two perithecia magnified, one of them collapsed.
Fig. 32. An ascus containing spores × 400.
Fig. 33. Spores × 400.
Fig. 34. Flocci of the subiculum × 400, one bearing a spore at the apex.
Fig. 35. Spores or conidia of the subiculum × 400.

SPHÆRIA MONOSPERMA *Peck.*

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Fig. 36. Piece of wood bearing the fungus.
Fig. 37. A perithecium with its matrix magnified.
Fig. 38. An ascus containing an immature spore × 400.
Fig. 39. An ascus containing a mature spore × 400.

PLATE III.

RECEPTACULITES SUBTURBINATUS *Hall.*

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Fig. 1. Lateral view of a specimen enlarged to two diameters.
Fig. 2. A further enlargement of the surface, showing the form of cells.
Fig. 3. An enlarged summit view of another specimen.

ASTYLOSPONGIA PRÆMORSA *Goldfuss.*

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Figs. 4, 5. Lateral and summit views of a specimen of medium size.
Fig. 6. View of the upper side of a more deeply lobed specimen.
Figs. 7, 8. Upper and lateral views of a very perfectly formed specimen, enlarged two diameters.
Figs. 9, 11. Vertical sections of two specimens showing structure, enlarged to two diameters. The dark spots in the center are filled with pyritous matter, and are not cavities.
Fig. 10. Horizontal section of another specimen, enlarged two diameters.
Figs. 12, 13. Lateral and summit views of a specimen, showing some difference from the usual form in the lobation of the surface.
Fig. 14. A crushed and imperfect specimen, showing the radiating fibrous-like character of the substance (enlarged).

ASTYLOSPONGIA ? (PALÆOMANON) BURSA *n. sp.*

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Figs. 15, 16. Lateral and profile views of a crushed specimen, showing the characters of the species. This is the only individual found among large collections of specimens from this locality.

X. A. præmorsa - Var Muxmoschata. X Var

1875

REPORT OF THE BOTANIST.

for 1875 issued 1878
fide Museum p. 249.

S. B. Woolworth, LL. D., *Secretary of the Board of Regents of the University:*

Sir. — Since the date of my last report, specimens of two hundred and twenty-five species of plants have been mounted and placed in the State Herbarium, of which two hundred and one were not before represented. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Rensselaer and Lewis. These represent one hundred and sixteen species of fungi new to the Herbarium. Sixty-eight of them are regarded as new or undescribed species. A list of collected plants is marked (2).

Specimens of thirty-seven species, new to the Herbarium and not among my collections of the past season, have been received from correspondents. Twelve of them are regarded as new or hitherto undescribed species. If the contributed specimens be added to those of my own collecting, the total number of additional species represented is one hundred and fifty-three. This does not include extralimital species, specimens of a considerable number of which have been received. A list of contributors and their contributions is marked (3).

Notices of previously unreported species, with descriptions of new species, are marked (4).

Notices of species previously reported, with remarks and observations, are marked (5).

Nearly three hundred species of fungi that attack and inhabit living plants have been detected in the State.

They affect almost as many species of flowering plants. In some cases several parasites attack the same host plant; in others, one parasite attacks two or more host plants indiscriminately. But, in many instances, a single parasite is peculiar to a single supporting plant, in which cases the latter may be taken by the student as a guide in his search for the description of the former. A Puccinia found on the leaves of the dwarf cornel, *Cornus Canadensis*, is almost

certain to answer to the description of *Puccinia porphyrogenita*, and an Æcidium on the leaves of the barberry, *Berberis vulgaris*, will scarcely be any other than *Æcidium Berberidis*.

A fact of still greater moment is, that some of our cultivated plants are attacked by fungoid foes which, minute as they are, materially diminish their vigor, impair their useful products and, in some instances, even destroy their vitality. Raspberries are attacked by the American raspberry rust, *Uredo luminata;* pea vines, by the pea mildew, *Erysiphe Martii;* oats and wheat, by the grain smut, *Ustilago Carbo;* plum and cherry trees, by the black-knot, *Sphæria morbosa*, and lettuce and onions by their respective molds, *Peronospora gangliformis* and *Peronospora Schleideniana*. Such fungi must be regarded as injurious to the interests of the husbandman, nor is the pecuniary loss which they occasion trivial or inconsiderable. The loss produced by the potato mold alone, *Peronospora infestans*, abundantly warrants all the effort and labor and study that have been devoted to the investigation of the history of the fungus and to the discovery of some efficient means for preventing its attacks or overcoming their destructive consequences.

On the other hand those fungi that infest noxious weeds and hinder their dissemination and multiplication, must be regarded as the friends and allies of man. Thus the thistle rust, *Trichobasis suaveolens*, an early state of *Puccinia Compositarum*, sometimes attacks the Canada thistle with great virulence, and so impairs its vigor as to prevent the development of the seeds, thereby checking the propagation and spread of this pestilent plant. So, also, the troublesome bur-grass, *Cenchrus tribuloides*, is sometimes infested by a smut fungus, *Ustilago Syntherismæ*, which not only prevents the development of the seeds of the grass but also of the annoying bur-like involucres. It may yet be found practicable to keep down this grass by the artificial dissemination of the spores of its parasitic fungus in those light, sandy soils where the grass usually abounds. It certainly is desirable that the life histories of these fungoid friends and foes should be better understood than they now are, and that the means of multiplying or diminishing their numbers according to their character should be under the control of the farmer.

With these thoughts in mind it has seemed advisable to group together the names of the parasitic fungi hitherto found in the State, with their supporting plants. The list of these is marked (6).

(1.)

PLANTS MOUNTED.

Not new to the Herbarium.

Nuphar advena *Ait.*
Rhus venenata *DC.*
Geum Virginianum *L.*
Pinguicula vulgaris *L.*
Lophanthus scrophulariæfolius
Trillium erect. v. album *Ph.*
Allium vineale *L.*
A. tricoccum *Ait.*
Scirpus Eriophorum *Mx.*
Eriophorum Virginicum *L.*
E. gracile *Koch.*
Carex exilis *Dew.*
C. fœnea *Willd.*
C. Grayii *Carey.*
C. livida *Willd.*
C. Crawei *Dew.*
Eleusine Indica *Gært.*
Millium effusum *L.*
Poa trivialis *L.*
P. alsodes *Gr.*
Asplenium thelypteroides *Mx.*
Onoclea sensibilis *L.*
Lygodium palmatum *Sw.*
Ophioglossum vulgatum *L.*

New to the Herbarium.

Negundo aceroides *Mœnch.*
Sedum reflexum *L.*
Nardosmia palmata *Hook.*
Aster amethystinus *Nutt.*
Centaurea nigra *L.*
Verbena bracteosa *Mx.*
Callitriche heterophylla *Ph.*
Habenaria leucophæa *Nutt.*
Allium Canadense *Kalm.*
Barbula recurvifolia *Schp.*
Hypnum compactum *C. Mull.*
Biatora uliginosa *Schrad.*
Collema limosum *Ach.*
Synalissa Schæreri *Mass.*
Spirogyra longata *Ktz.*
Hydrogastrum granulatum *Desv.*
Pleurococcus vulgaris *Mengh.*
Agaricus pusillomyces *Pk.*
A. tenerrimus *Berk.*
A. Austini *Pk.*
A. Watsoni *Pk.*
A. erinaceëllus *Pk.*
A. Colvini *Pk.*
Coprinus Seymouri *Pk.*
Hygrophorus marginatus *Pk.*
H. parvulus *Pk.*
H. Peckianus *Howe.*
Cantharellus pruinosus *Pk.*
Lentinus umbilicatus *Pk.*
Boletus Spragueï *Frost.*
B. chromapes *Frost.*
Polyporus Stephensii *Berk.*
Hydnum aurantiacum *Batsch.*
H. auriscalpium *L.*
Michenera Artocreas *B. & C.*
Stereum candidum *Schw.*
Corticium giganteum *Fr.*
C. colliculosum *B. & C.*
Cyphella muscigena *Fr.*
Solenia filicina *Pk.*
Clavaria pyxidata *Pers.*
C. rugosa *Bull.*
C. pulchra *Pk.*
C. gracillima *Pk.*
Typhula Grevillei *Fr.*
Tremella vesicaria *Bull.*
Physarum contextum *Pers.*
P. albicans *Pk.*
Dictydium umbilicatum *Schrad.*
Phoma pallens *B. & C.*

Phoma Mariæ *Clinton.*
Diplodia Herbarum *Lev.*
Sphæropsis Sambuci *Pk.*
S. biformis *Pk.*
S. Squieriæ *Clinton.*
S. Wilsoni *Clinton.*
S. Clintonii *Pk.*
Hendersonia Peckii *Clinton.*
H. Mariæ *Clinton.*
H. Sarmentorum *West.*
Vermicularia coptina *Pk.*
Septoria Coptidis *B. & C.*
S. maculosa *Ger.*
S. Wilsoni *Clinton.*
S. sambucina *Pk.*
S. Scrophulariæ *Pk.*
S. Rhoidis *B. & C.*
Dinemasporium Pezizula *B. & C.*
Asteroma Rosæ *DC.*
Morthiera Mespili *Fckl.*
Discella discoidea *C. & P.*
Sphæronema conforme *Pk.*
S. oxysporum *Berk.*
Coryneum Kunzei *Cd.*
Melanconium disseminatum *Fr.*
M. minutissimum *Schw.*
Pestalozzia insidens *Zab.*
P. rostrata *Zab.*
P. monochæta *Desm.*
Septonema Peziza *C. & E.*
Sporidesmium Lepraria *Berk.*
Puccinia Sorghi *Schw.*
P. bullaria *Lk.*
P. Smilacis *Schw.*
P. Dayi *Clinton.*
P. Clintonii *Pk.*
Ustilago neglecta *Niessl.*
Uromyces Graminum *Ck.*
U. Phaseoli *Strauss.*
Protomyces Menyanthis *D. By.*
Peridermium columnare *A. & S.*
Æcidium album *Clinton.*
Æ. Neseæ *Ger.*
Æ. dracontiatum *Schw.*
Cystopus Bliti *Biv.*
Stilbum candidum *Pk.*
S. aurifilum *Ger.*
Monotospora biseptata *Pk.*
Stachybotrys lobulata *Berk.*
Haplographium apiculatum *Pk.*
Helminthosporium Urticæ *Pk.*
Macrosporium Saponariæ *Pk.*
Nematogonum aurantiacum *Desm.*
Erysiphella aggregata *Pk.*
Microsphæra Van Bruntiana *Ger.*
M. Platani *Howe.*
M. Symphoricarpi *Howe.*
M. Menispermi *Howe.*
M. abbreviata *Pk.*
Uncinula luculenta *Howe.*
Chætomium Douglasii *Schw.*
Peronospora obliqua *Ck.*
P. Geranii *Pk.*
Geoglossum velutipes *Pk.*
Peziza amplispora *C. & P.*
P. pallidula *C. & P.*
P. omphalodes *Bull.*
P. sepulta *Fr.*
P. ovilla *Pk.*
P. clandestina *Bull.*
P. Cucurbitæ *Ger.*
P. hyalina *Pers.*
P. scirpina *Pk.*
P. Pteridis *A. & S.*
P. corneola *C. & P.*
P. subatra *C. & P.*
P. atrocinerea *Ck.*
Helotium pileatum *Pk.*
H. salicellum *Fr.*
Patellaria fenestrata *C. & P.*
P. dispersa *Ger.*
P. fusispora *C. & P.*

Sphinctrina tigillaris *B. & Br.*
Cenangium Rubi *Fr.*
C. deformatum *Pk.*
C. Aucupariæ *Fr.*
Stictis pupula *Fr.*
S. hysterina *Fr.*
S. quercina *Pk.*
Rhytisma Urticæ *Fr.*
Hysterium Rousselii *De Not.*
H. magnosporium *Ger.*
Colpoma Ledi *Pk.*
Ailographum subconfluens *Pk.*
Torrubia superficialis *Pk.*
T. clavulata *Schw.*
Epichloe typhina *Berk.*
Nectria sanguinea *Fr.*
Hypoxylon Sassafras *Schw.*
Dothidea Linderæ *Ger.*
D. clavispora *C. & P.*
Melogramma gyrosum *Schw.*
M. Bulliardi *Tul.*
Diatrype aspera *Fr.*
D. subclypeata *C. & P.*
D. anomala *Pk.*
Melanconis bicornis *Ck.*
Valsa Prunastri *Fr.*
V. Rubi *Fckl.*
V. Woolworthi *Pk.*
V. leiphemia *Fr.*
V. acerina *Pk.*
V. oxyspora *Pk.*
V. obscura *Pk.*
V. mucronata *Pk.*
Valsa suffusa *Fr.*
V. femoralis *Pk.*
V. sambucina *Pk.*
Cucurbitaria alnea *Pk.*
C. seriata *Pk.*
Lophiostoma Jerdoni *B. & Br.*
L. macrostoma *Fr.*
L. triseptata *Pk.*
L. Scrophulariæ *Pk.*
L. Spiræ *Pk.*
Sphæria pulicaris *Pers.*
S. hirtissima *Pk.*
S. subcorticalis *Pk.*
S. phæostromoides *Pk.*
S. amphicornis *Ellis.*
S. canina *Pk.*
S. valsoides *Pk.*
S. minima *Awd.*
S. Scoriadea *Fr.*
S. monosperma *Pk.*
S. rubefaciens *Pk.*
S. Urticæ *Rabh.*
S. mirabilis *Pk.*
S. tubæformis *Tode.*
Sphærella sparsa *Awd.*
S. carpinea *Fr.*
S. indistincta *Pk.*
S. orbicularis *Pk.*
S. oblivia *Ck.*
Venturia Myrtilli *Ck.*
V. Clintonii *Pk.*
V. Kalmiæ *Pk.*

(2.)

PLANTS COLLECTED.

Agaricus transmutans *Pk.*
A. sapidus *Kalchb.*
A. abundans *Pk.*
A. citrinellus *Pers.*
A. stylobates *Pers.*
A. pubescentipes *Pk.*
A. pruinatipes *Pk.*
A. teneroides *Pk.*
A. placomyces *Pk.*
A. squalidellus *Pk.*
A. elongatipes *Pk.*
A. atomatoides *Pk.*
A. incertus *Pk.*
Coprinus pulchrifolius *Pk.*
C. plumbeus *Pk.*
Cortinarius splendidus *Pk.*
C. sphagnophilus *Pk.*
C. robustus *Pk.*
C. castanellus *Pk.*
Gomphidius rhodoxanthus *Schw.*
Hygrophorus speciosus *Pk.*
Lactarius scrobiculatus *Scop.*
L. vellereus *Fr.*
L. subpurpureus *Pk.*
L. parvus *Pk.*
Marasmius spongiosus *B. & C.*
Boletus badius *Fr.*
B. Russellii *Frost.*
B. Peckii *Frost.*
B. nigrellus *Pk.*
B. griseus Frost.
B. ornatipes *Pk.*
B. Ravenelii *B. & C.*
Exobasidium Cassandræ *Pk.*
Phallus Dæmonum *Fr.*
Lycoperdon coloratum *Pk.*
Chondrioderma Michelii *Lib.*
Lamproderma physaroides *A. & S.*
Cryptosporium Caricis *Cd.*
Sphæropsis propullans *Schw.*
S. Gallæ *Schw.*
Discosia faginea *Lib.*
Melasmia alnea *Lev.*
Septoria cerasina *Pk.*
S. difformis *C. & P.*
Excipula leucotricha *Pk.*
Discella Platani *Pk.*
D. Kalmiæ *Pk.*
D. macrosperma *Pk.*
Melanconium pallidum *Pk.*
Phragmidium gracile *Grev.*
Ustilago Candollei *Tul.*
Uromyces Claytoniæ *C. & P.*
Coleosporium ochraceum *Bon.*
Cystopus Portulacæ *DC.*
Stilbum vulgare *Tode.*
Epicoccum neglectum *Desm.*
Periconia truncata *C. & P.*
P. corticalis *C. & P.*
Helminthosporium oosporum *Cd.*
H. episphæricum *C. & P.*
Polyactis pulvinata *B. & C.*
Peronospora effusa *Grev.*
P. pygmæa *Ung.*
Ramularia Nemopanthis *C. & P.*
Oidium leucoconium *Desm.*
Stysanus Stemonitis *Cd.*
Dactylium roseum *Berk.*
Fusisporium phyllogenum *C. & P.*
F. parasiticum *Pk.*
Chætomium funicolum *Ck.*
Peziza imperialis *Pk.*
P. griseo-rosea *Ger.*
P. albospadicea *Grev.*
P. bronca *Pk.*
P. longipes *C. & P.*

Peziza agrostina *Pk.*
P. Pinastri *C. & P.*
P. Thalictri *Pk.*
P. virginella *Ck.*
P. subtilissima *Ck.*
Helotium hydrogenum *Pk.*
H. saprophyllum *C. & P.*
Ascobolus ciliatus *Schm.*
A. furfuraceus *Pers.*
Bulgaria purpurea *Fckl.*
Stictis versicolor *Fr.*
S. filicina *Pk.*
Hypocrea rufa *Fr.*
H. chromosperma *C. & P.*
H. apiculata *C. & P.*
Hypomyces transformans *Pk.*
Dothidea filicina *Fr.*
Valsa trichispora *C. & P.*
V. tumidula *C. & P.*
Valsa cinctula *C. & P.*
V. Fraxinicola *C. & P.*
V. Linderæ *Pk.*
Sphæria fulgida *C. & P.*
S. squalidula *C. & P.*
S. salebrosa *C. & P.*
S. recessa *C. & P.*
S, interstitialis *C. & P.*
S. obtusissima *B. & C.*
S. Fimeti *Pers.*
S. spiculosa *Pers.*
S. obducens *Fr.*
S. ceanothina *Pk.*
S. melantera *Pk.*
S. minutella *Pk.*
S. smilacinina *Pk.*
S. culmifraga *Desm.*
S. Collinsii *Schw.*
Sphærella colorata *Pk.*

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Mrs. E. E. Atwater, Chicago, Ill.

Phegopteris Dryopteris *Fee.*
P. polypodioides *Fee.*
Cystopteris fragilis *Bernh.*
Mitremyces lutescens *Schw.*

Mrs. T. E. Morris, Potomac, Va.

Mitremyces lutescens *Schw.*

Mrs. S. M. Rust, Syracuse, N. Y.

Scirpus maritimus *L.*
Botrychium matricariæfolium.

Mrs. Barnes, Syracuse, N. Y.

Botrychium matricariæfolium *A. Br.*

Mrs. L. A. Millington, Glens Falls, N. Y.

Arcuthobium Americanum *Engelm.*
Arcuthobium robustum *Engelm.*
Aspid. Noveb. v. fragrans *Mill.*

W. W. Hill, Albany, N. Y.

Pinus contorta *Dougl.*
Aspidium spinulosum *Sw.*
Asplenium Filix-fœmina *Bernh.*
Woodwardia Virginica *Sm.*
Dicksonia punctilobula *Kze.*
Botrychium matricariæfolium.

C. Devol, M. D., Albany, N. Y.

Pinus contorta *Dougl.*

W. R. Gerard, Poughkeepsie, N. Y.

Omphalaria pulvinata *Nyl.*
Agaricus tremulus *Schæff.*
Boletus parasiticus *Bull.*
Melanogaster ambiguus *Tul.*
Uncinula geniculata *Ger.*
Helotium æruginosum *Fr.*
Bulgaria purpurea *Fckl.*

E. C. Howe, M. D., Yonkers, N. Y.

Badhamia hyalina *Pers.*
Septoria Ulmi *Kze.*
Diatrype Smilacicola *Schw.*

I. A. Lapham, Milwaukee, Wis.

Podisoma macropus *Schw.*

Prof. J. Hall, Albany, N. Y.

Rumex Engelmanni *Ledeb.*

Prof. G. H. French, Irvington, Ill.

Dryas octopetala *L.*
Jamesia Americana *T. & G.*
Heuchera bracteata *Seringe.*

H. Gillman, Detroit, Mich.

Uryomces Junci *Schw.*

C. F. Parker, Germantown, Pa.

Rhytisma acerinum *Fr.*

Prof. C. E. Bessey, Ames, Iowa.

Septoria Besseyi *Pk.*
Cystopus candidus *Lev.*

Rev. H. Wibbe, Oswego, N. Y.

Azalea viscosa *L.*

C. C. Frost, Brattleborough, Vt.

Marasmius archyropus *Fr.*
M. erythropus *Fr.*
Boletus griseus *Frost.*
Paxillus porosus *Berk.*
Lycoperdon cyathiforme *Bosc.*
Endobotrys elegans *B. & C.*

E. A. Rau, Bethlehem, Pa.

Pannaria crossophylla *Tuckm.*

H. A. Warne, Oneida, N. Y.

Pellæa gracilis *Hook.*
Scolopendrium vulgare *Sm.*
Guepinia helvelloides *DC.*
Lactarius vellereus *Fr.*
Phragmidium mucronatum *Fr.*
P. gracile *Grev.*
Lycoperdon constellatum *Fr.*
L. Warnei *Pk.*

J. B. Ellis, Newfield, N. J.

Hymenochæte agglutinans *Ellis.*
Peziza inquinans *Ck.*
P. nigrescens *Ck.*
Dermatea tabacina *Ck.*
Hypocrea rufa *Fr.*
H. consimilis *Ellis.*
Ombrophila violacea *Fr.*
O. purpurascens *Fr.*
O. subaurea *Ck.*
Sporidesmium rude *Ellis.*
Diatrype moroides *C. & P.*
Menispora ciliata *Cd.*

Hon. G. W. Clinton, Buffalo, N. Y.

Corticium sulfureum *Fr.*
Phoma nebulosum *Berk.*
Peckia Clintonii *Pk.*
P. Sarraceniæ *P. & C.*
Cryptosporium Noveboracense.
Septoria Polygalæ *P. & C.*
S. emaculata *P. & C.*
Vermicularia concentrica *P. & C.*
Discosia rugulosa *B. & C.*
Pestalozzia Guepini *Desm.*
Sporidesmium concinnum *Berk.*
Clasterisporium uncinatum *Clint.*
Puccinia Calthæ *Lk.*
P. Gentianæ *Strauss.*
P. Physostegiæ *P. & C.*
Cystopus spinulosus *DeBy.*
Graphiolum Phœnicis *Poit.*
Stilbum smaragdinum *A. & S.*
Ægerita candida *Pers.*
Cercospora Callæ *P. & C.*
Ramularia Nemopanthis *C. & P.*
Zygodesmus hydnoides *B. & C.*
Bulgaria purpurea *Fckl.*
Tympanis gyrosa *B. & C.*
Hypocrea patella *C. & P.*
H. chromosperma *C. & P.*
Hypoxylon fuscopurpureum *Schw.*
Diatrype Cephalanthi *Schw.*
Melogramma superficialis *P. & C.*
Valsa leptasca *P. & C.*
Sphæria spermoides *Hoffm.*
S. exilis *A. & S.*

(4.)

PLANTS NOT BEFORE REPORTED.

OMPHALARIA PULVINATA *Nyl.*

Poughkeepsie. *W. R. Gerard.*

AGARICUS (TRICHOLOMA) TRANSMUTANS *n. sp.*

Pileus convex, smooth, very viscid or glutinous and alutaceous when moist, becoming brownish or reddish-brown when dry; lamellæ narrow, close, some of them branched, whitish or pale yellow, becoming spotted with reddish stains; stem equal or slightly tapering upwards, smooth, stuffed or hollow, whitish, often marked with reddish stains; spores subglobose, .0002′ * in diameter.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Ground in woods. Sandlake. August.

It occurs in wet weather and manifests a tendency to grow in circles.

AGARICUS SAPIDUS *Kalchb.*

Trunks of trees and old stumps. Albany and Knowersville. June and October.

The cæspitose habit and lilac-tipted spores are to be observed in distinguishing this species from its allies. It is considered edible.

AGARICUS TREMULUS *Schaff.*

Mosses. Poughkeepsie. *Gerard.*

AGARICUS (COLLYBIA) ABUNDANS *n. sp.*

Pileus thin, convex or expanded, subumbilicate, innate-fibrillose, whitish inclining to fuscous, often a little darker and more densely fibrillose on the disk, the thin margin easily splitting; lamellæ narrow, close, adnate, sometimes veiny, white; stem equal, smooth, hollow, easily splitting, often curved, colored like the pileus, pruinose at the top.

Plant gregarious or subcæpitose, 1′–2′ high, pileus 1′–1.5′ broad, stem 1″ thick.

Decaying trunks in woods. Sandlake and Greig. August and September.

This fungus is not frequent, but when it does occur it is usually in great abundance. When drying the margin rolls inward and the color becomes darker.

* One accent signifies inch or inches, two accents line or lines.

AGARICUS CITRINELLUS *Pers.*

Decaying mossy trunks in woods. Greig. September.

AGARICUS STYLOBATES *Pers.*

Among fallen leaves in woods. Sandlake. August.

The pileus in our specimens is grayish and the striations are dichotomous.

AGARICUS (VOLVARIA) PUBESCENTIPES *n. sp.*

Pileus convex, dry, white, clothed with minute hairy squamules or reflexed fibrils, fimbriate on the margin; lamellæ close, free, white, then flesh-colored, sometimes minutely serrated or eroded on the edge; stem slender, subequal, pubescent; volva subappressed, white; spores elliptical, .00025′–.00028′ long, usually containing a single nucleus.

Plant about 1′ high, pileus 6″–12″ broad, stem 1″ thick.

Ground in borders of deciduous woods. Sandlake. August.

The different pileus as well as habitat separates this from *A. hypopithys*. (Plate 1, figs. 1–3.)

AGARICUS (NAUCORIA) PRUINATIPES *n. sp.*

Pileus regular, convex, smooth, hygrophanous, brownish when moist, ochraceous-yellow when dry, flesh whitish; lamellæ close, nearly plane, rounded behind, pale-cinnamon; stem equal, firm, stuffed or hollow, pruinose, striate, pallid or cinereous; spores subelliptical, brownish-ferruginous, .00025′ long.

Plant 1′–2′ high, pileus 1′–1.5′ broad, stem about 1″ thick.

Ground in woods. Greig. September.

The pruinosity of the stem is due to the presence of minute flocculent or mealy squamules.

AGARICUS (GALERA) TENEROIDES *n. sp.*

Pileus thin, campanulate or expanded, hygrophanous, brownish-cinnamon and striatulate when moist, paler when dry; lamellæ narrow, close, yellowish-cinnamon; stem straight, equal, hollow, colored like the pileus; spores subluteous, nearly elliptical, .0003′–.00035′ long.

Plant gregarious, 1′–1.5′ high, pileus 8″–12″ broad, stem .5″ thick.

Ground in wood roads. Greig. September.

This species is closely related to *A. tener*, from which it differs in its more expanded pileus, more narrow lamellæ, shorter stem and smaller paler spores. Its color is nearly the same as that of *A. tener*.

AGARICUS (PSALLIOTA) PLACOMYCES *n. sp.*

Pileus rather thin, expanded, plane, dry, squamulose, whitish, the disk and small scales brown; lamellæ close, free, white, then pinkish, finally blackish-brown; stem smooth, containing a small pith, slightly tapering upward, bulbous, whitish, the bulb stained with yellow and usually giving rise to one or two root-like processes; annulus large, flabby, often studded with drops of a dark-colored fluid; spores elliptical, brown, .00018′–.0002′ long.

Plant 3′–5′ high, pileus 2′–3′ broad, stem 2″–4″ thick.

Ground under hemlock trees. Oneida. *H. A. Warne.* Knowersville. July.

This is a beautiful Agaric, the flattened pileus being finely adorned by the minute brown scales.

AGARICUS (HYPHOLOMA) SQUALIDELLUS *n. sp.*

Pileus thin, subconical, convex or subcampanulate, expanded when old, smooth, hygrophanous, ochraceous-yellow when dry, darker and striatulate when moist, squalid and spore-stained when old; lamellæ broad, lax, rounded behind, whitish, then purplish-brown with a whitish edge; stem slender, stuffed, fibrous, subflexuous, reddish-brown; spores elliptical, purple-brown, .00035′–.0004′ long.

Plant gregarious, 1′–2′ high, pileus 6″–12″ broad, stem 1″ thick.

Damp ground in or near wood roads. Greig. September.

A small form sometimes occurs with the pileus gibbous or broadly umbonate.

AGARICUS (PSILOCYBE) ELONGATIPES *n. sp.*

Pileus thin, convex, then expanded, smooth, moist, yellow; lamellæ subdistant, broad, plane, then ventricose, yellowish becoming brown, usually with the edge whitish; stems elongated, subfragile, flexuous, equal, stuffed or hollow, usually with a few silky fibrils, pallid or rufous; spores brown, elliptical, .0004′–.0005′ long.

Plant 3′–5′ high, pileus 6″–10″ broad, stem 1″ thick.

Among sphagnum in marshes and wet places in woods. Greig. September.

It appears to be allied to *A. elongatus.* When young the presence of a slight veil is manifest.

AGARICUS (HYPHOLOMA) INCERTUS *n. sp.*

Pileus fragile, convex or subcampanulate, then expanded, hygrophanous, often radiately-wrinkled, whitish with the disk yellowish, the thin margin sometimes purplish-tinted, often wavy, adorned by fragments of the white flocculent fugacious veil; lamellæ close, nar-

row, whitish, then rosy-brown, the edge often uneven; stem equal, straight, hollow, easily splitting, whitish, pruinose or slightly furfuraceous at the top; spores elliptical, purplish-brown, .0003′ long, .0002′ broad.

Plant gregarious or subcæspitose, 2′–3′ high, pileus 1′–2′ broad, stem 1′–2′ thick.

Ground among bushes. Green Island and Sandlake. June and July.

The veil is sometimes so strongly developed as to form an imperfect annulus. The color is nearly white from the first.

AGARICUS (PSILOCYBE) ATOMATOIDES *n. sp.*

Pileus rather thin, fragile, convex or subcampanulate, then expanded, rugose-wrinkled, subhygrophanous, sprinkled with minute shining particles and with tufts of the white floccose fugacious veil, grayish or ochraceous-brown, sometimes with a pinkish tint; lamellæ rather broad, subventricose, rounded behind, cinereous then dark-brown; stem equal, hollow, clothed when young with minute floccose scales, pruinose at the top, whitish; flesh cinereous; spores subelliptical, blackish brown, .00028′–.0003′ long, .00016′ broad.

Plant 1.5′–2′ high, pileus 8″–12″ broad, stem 1″ thick.

Ground and decaying wood under pine trees. West Albany. June and July.

In very wet weather the pileus has a dark watery appearance but it dries quickly. The spores in the mass are almost black, nevertheless the plant is closely related to the fragile species of Psilocybe.

COPRINUS PULCHRIFOLIUS *n. sp.*

Pileus membranaceous, conical or campanulate, striate to the small even yellowish disk, cinereous, sprinkled with minute whitish scales or granules; lamellæ narrow, crowded, free, cinnamon-brown, often furnished with a few minute hyaline spine-like processes; stem slender, fragile, hollow, white; spores elliptical, brown with a slight rosy tinge .0003′ long.

Plant solitary, 2′–3′ high, pileus 6″–12″ broad, stem scarcely 1″ thick.

Ground in woods. Greig. September.

This remarkable species does not accord well with the characters of the genus to which I have referred it, neither in the color of the spores nor in the persistent nature of the lamellæ, for I have not found these to be deliquescent. Nor will it do to place it among the Psathyræ, for the lamellæ are free and the pileus is not hygrophanous. Also, the free lamellæ and brown spores forbid its reference to Psathyrella. I have, therefore, thought best for the present to place it

in the genus Coprinus, some of the species of which it much resembles in external appearance.

COPRINUS PLUMBEUS *n. sp.*

Pileus submembranaceous, fragile, campanulate, sulcate-striate nearly to the apex, leaden-gray, tawny or brownish-yellow on the small disk, sprinkled with tawny-cinereous hairs or flocci; lamellæ narrow, close, free; stem slightly tapering upward, hollow, floccose, white; spores elliptical, .0004′ long, .00025′ broad.

Plant 3′–5′ high, pileus 1′–1.5′ broad, stem 1″–2″ thick.

Ground in wood roads. Greig. September.

CORTINARIUS (PHLEGMACIUM) SPHAGNOPHILUS *n. sp.*

Pileus convex or expanded, smooth, viscid, pale-brown, marked with darker watery spots, especially on the margin; lamellæ broad, subdistant, transversely rugulose, violaceous, then cinnamon; stem long, firm, bulbous, silky, striate, pale-violaceous; spores oblong-elliptical, .0004′–.0005′ long.

Plant 5′–6′ high, pileus 2′–3′ broad, stem 4″–5″ thick.

Sphagnous marshes. Greig. September.

The spotted pileus is a distinctive feature in this species.

CORTINARIUS (MYXACIUM) SPLENDIDUS *n. sp.*

Pileus convex or subcampanulate, viscid, pale-fuscous; lamellæ not crowded, whitish, then cinnamon; stem equal, viscid, violaceous, whitish above; spores with an apiculus at one end, .0006′–.00065′ long.

Plant 3′ high, pileus 2′ broad, stem 3″–5″ thick.

Ground in woods. Sandlake. August.

The shining brown pileus and violet colored stem afford a singular combination of colors. The plant is apparently very rare.

CORTINARIUS (INOLOMA) ROBUSTUS *n. sp.*

Pileus hemispherical, then expanded, smooth, pale-bay, the margin sometimes lobed; lamellæ close, pale-cinnamon; stem stout, solid, bulbous, pallid, clothed with whitish silky fibrils; spores elliptical, .00035′ long.

Plant 2′–4′ high, pileus 2′–3′ broad, stem 3″–6″ thick.

Ground in woods. Greig. September.

The plant is quite variable in size but it usually has a stout, rugged appearance.

CORTINARIUS (DERMOCYBE) CASTANELLUS *n. sp.*

Pileus thin, convex or expanded, umbonate, smooth, shining, dark-chestnut color, the umbo almost black; lamellæ close, rounded behind, cinnamon; stem silky, equal, stuffed or hollow, pallid or whitish, obscurely violaceous above; spores elliptical, .00035′ long.

Plant 2′ high, pileus 6″–12″ broad, stem 1″–2″ thick.

Ground in open fields. West Albany. October.

The smaller size of the plant, the umbonate pileus and larger spores distinguish this from *C. nigrellus*, which it somewhat resembles in color.

GOMPHIDIUS RHODOXANTHUS *Schw.*

Ground in deciduous woods. Sandlake. August.

The pileus is not always red, but varies sometimes toward yellow, sometimes toward brown. The spores are oblong, .0004′–.0005′ in length.

HYGROPHORUS SPECIOSUS *n. sp.*

Pileus at first ovate or subconical, then expanded with the thin margin decurved, smooth, glutinous, often with a small umbo, bright red or scarlet, becoming yellowish; lamellæ arcuate, decurrent, subdistant, white, the interspaces sometimes veiny; stem long, subequal, solid, white or yellowish, sometimes viscid; spores elliptical, .0003′–.00035′ long.

Plant gregarious, 3′–5′ high, pileus 1′–2′ broad, stem 3″–5″ thick.

Ground under or near larch trees. Greig and Center. September and October.

This is a very showy plant. The small umbo or disk retains the red color longer than the rest of the pileus. (Plate 2, figs. 1–5.)

LACTARIUS SCROBICULATUS *Scop.*

Ground in woods. Bethlehem. August.

LACTARIUS VELLEREUS *Fr.*

Ground in woods. Sandlake. Oneida. *Warne.* August.

The tomentum of the pileus and pubescence of the stem are frequently obsolete or indistinct.

LACTARIUS SUBPURPUREUS *n. sp.*

Pileus at first convex, then expanded or depressed, smooth, subviscid, variegated with purplish and cinereous hues; lamellæ dull-red or purplish; stem equal, colored like the pileus; milk sparse, dark-red.

Plant 2′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Mossy ground in swamps. Sandlake. August.

The species is related to *L. deliciosus*, but there are no orange hues either to the plant or the milk as in that species.

LACTARIUS PARVUS *n. sp.*

Pileus nearly plane, then depressed, smooth, reddish-brown, becoming paler; lamellæ crowded, narrow, white, then tinged with yellow; stem mostly short, often curved, stuffed, equal or slightly tapering upward, whitish; milk white, taste acrid; spores globose, rough, .00033′ in diameter.

Plant about 1′ high, pileus 6″–12″ broad, stem 1″–2″ thick.

Decaying stumps in woods. Sandlake and Greig. August and September.

MARASMIUS SPONGIOSUS *B. & C.*

Ground among fallen leaves. West Albany and Center. August.

BOLETUS BADIUS *Fr.*

Woods. Greig and Sandlake. August and September.

BOLETUS PARASITICUS *Bull.*

Parasitic on *Scleroderma vulgare*. Willowemoc. *Gerard.*

BOLETUS RUSSELLII *Frost.*

Woods. Sandlake. August.

This species is rare with us. It is remarkable for its long lacunose-reticulated and roughly lacerated stem, which is narrowed at the top and sometimes strongly curved at the base. Mr. Frost finds a form with the stem much twisted.

BOLETUS RAVENELII *B. & C.*

Woods. Sandlake. August.

If I understand this species correctly it often attains much larger dimensions than those given in the description. The tubes are at first whitish but in drying they change to a brown color. They become dingy-brown where bruised. The stem sometimes tapers downwards and is usually peronate and more or less annulate by the yellow veil. The pileus is reddish where the pulverulence has vanished. The plant is sometimes cæspitose.

BOLETUS NIGRELLUS *n. sp.*

Pileus dry, minutely tomentulose, blackish; tubes plane or convex, scarcely depressed around the stem, small, unequal, subrotund, whitish, then tinged with pink; stem equal, short, even, colored like the pileus;

flesh white, unchangeable; spores oblong, mostly narrowed toward one end, .0004′–.0005′ long.

Plant 3′–4′ high, pileus 3′–4′ broad, stem 6″–10″ thick.

Woods. Sandlake. August.

BOLETUS PECKII *Frost n. sp.*

Pileus dry, firm, minutely tomentulose, red, fading to buff-brown, the margin usually retaining its color longer than the disk; tubes nearly plane, adnate or slightly decurrent, yellow, turning blue when wounded; stem equal or subventricose, strongly reticulated, red, yellow at the top; spores ochraceous-brown, oblong, .00035′–.0004′ long.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–6″ thick.

Ground in deciduous woods. Sandlake. August.

The stem is generally brighter colored than the pileus and retains its color longer. The species should be referred to the *Calopodes*.

BOLETUS GRISEUS *Frost n. sp.*

Pileus dry, firm, nearly smooth, gray or grayish black; tubes nearly plane, adnate, sometimes slightly depressed around the stem, small, unequal, subrotund, white; stem whitish or yellowish, strongly reticulated, often abruptly narrowed and yellow at the base; flesh whitish or gray; spores ochraceous-brown, oblong, .0004′–.0005′ long.

Plant 3′–4′ high, pileus 2′–4′ broad, stem 6″–12″ thick.

Deciduous woods. Sandlake. August.

The plants have a rather strong unpleasant odor. The color of the pileus is variable, but it is generally some shade of gray. The reticulations of the stem are finer at the top, coarser, elongated and somewhat compound toward the base, but in the dried specimens the finer reticulations at the top of the stem are the most distinct, the others becoming obsolete. My esteemed friend, Mr. Frost, finds a form which he considers a variety of this species, differing from the type in having the tubes flesh and stem yellow.

GUEPINIA HELVELLOIDES *DC.*

Decayed wood partly buried. Oneida. *Warne.*

Mr. Warne remarks that he has found it in but one limited locality, four or five feet square, and that its color when fresh is a very beautiful reddish-brown.

PHLEBIA PILEATA *n. sp.*

Pilei coriaceous, effuso-reflexed, more or less imbricated and laterally confluent, concentrically sulcate, zonate, subtomentose, purplish-brown; hymenium a little paler, usually stained with red or orange on the margin, the folds crowded, radiating, frequently interrupted

behind and appearing like coarse papillæ, when dry suffused with a dull tawny bloom; spores elliptical, colorless, .0003′ long.

Dead branches of beech. Greig. September.

CORTICIUM SULPHUREUM *Fr.*

Decaying wood. Buffalo. *Clinton.*

EXOBASIDIUM CASSANDRÆ *n. sp.*

Gall a suborbicular thickened portion of the leaf, generally concave above, convex below, two to four lines in diameter, red or yellow, at length white pruinose on the lower surface; spores oblong, colorless, variable in size, .0002′–.0005′ long.

Living leaves of *Cassandra calyculata.* Buffalo. *Clinton.* Sandlake. July. Perhaps this is only a form of *E. Vaccinii.*

MELANOGASTER AMBIGUUS *Tul.*

Clay banks. Ponghkeepsie, *Gerard.*

PHALLUS DÆMONUM *Fr.*

Shaded ground. Albany. September.

This is placed by some in a genus *Dictyophora.*

LYCOPERDON CONSTELLATUM *Fr.*

Fallen leaves under trees. Oneida. *Warne.* August.

This is a fine species, having, if possible, a more shaggy appearance than *L. pedicellatum* and *L. separans.* The spinous processes are either straight or curved. The color is a cervine brown, and scarcely changes in drying. (Plate 2, figs. 13 and 14.)

LYCOPERDON COLORATUM *n. sp.*

Peridium subglobose or obovate, subsessile, six to ten lines in diameter, radicating, yellow or reddish-yellow, membranaceous, roughened with minute granular or furfuraceous warts; capillitium and spores pale, the latter globose, .00016′–.0002′ in diameter.

Ground in bushy places. Sandlake. August.

The species is remarkable for the pale color of the capillitium and the yellow hue of the peridium.

CHONDRIODERMA MICHELII *Lib.*

Fallen leaves, grass and twigs. West Albany. September. (Plate 1, figs. 4–6.)

BADHAMIA HYALINA *Pers.* (*Didymium simulans* Howe.)

Ailanthus bark. Yonkers. *Howe.*

LAMPRODERMA PHYSAROIDES *A. & S.*

Decaying wood. Buffalo. *Clinton.* Indian Lake.

PHOMA NEBULOSUM *Berk.*

Dead nettle stems. Buffalo. *Clinton.* May.

CRYPTOSPORIUM CARICIS *Cd.*

Dead leaves of sedges. West Albany. May.

CRYPTOSPORIUM NOVEBORACENSE *B & C.*

Bark of hemlock. Markham Station. *Clinton.* May.

PECKIA *Clinton nov. gen.*

Perithecia carbonaceous, spheriform, glabrous; spores concatenate.

The strings of spores are nearly or quite colorless, sometimes branched in a retiform manner, sometimes involved in mucus. The character of the perithecia separates the genus from *Myxormia.*

PECKIA SARRACENIÆ *Peck & Clinton, n. sp.*

Perithecia scattered or collected in small groups, sometimes seated on blackish spots, small, slightly prominent, black; strings of spores retiformly branched, spores oblong, narrow, colorless, .0003′ long.

Dead leaves of pitcher plant, *Sarracenia purpurea.* Buffalo. *Clinton.*

PECKIA CLINTONII *n. sp.*

Perithecia scattered, prominent on both surfaces of the leaf, smooth, black; strings of spores involved in mucus; spores subquadrate, slightly tinged with green, .0002′ long.

Decaying leaves of *Smilacina trifolia.* Buffalo. *Clinton.* April.

The strings of spores sometimes adhere to each other laterally. Sometimes there is the appearance of a spurious or divided endochrome in the spores. (Plate 2, figs. 6–9.)

SPHÆROPSIS GALLÆ. (*Sphæria Gallæ* Schw.)

Old galls and twigs of butternut, *Juglans cinerea.* Bethlehem.

The perithecia on the galls are so crowded that they appear to the naked eye to form a continuous black crust.

SPHÆROPSIS PROPULLANS. (*Sphæria propullans* Schw.)

Dead stems of *Celastrus scandens.* Greenbush.

VERMICULARIA CONCENTRICA *P. & C. n. sp.*

Perithecia small, black, beset with straight rigid bristles, concentrically placed on arid orbicular spots; spores oblong, slightly curved, pointed at each end, colorless, .0008′–.001′ long.

Living leaves of *Trillium erythrocarpum*. Pine Valley. *Clinton*. Jniy.

The tissues at length fall out from the affected spot, leaving apertures through the leaf. The perithecia are less regularly disposed near the center of the spots. Judge Clinton also sends a variety on leaves of *Viola rotundifolia* in which the concentric arrangement of the perithecia is not at all perceptible, but I detect no other difference.

DISCOSIA FAGINEA *Lib.*

Fallen beech leaves. Portville. September.

DISCOSIA RUGULOSA *B. & C.*

Leaves of hickory, *Carya alba*. Chautauqua Lake. *Clinton*.

MELASMIA ALNEA *Lev.*

Living leaves of alder, *Alnus serrulata*. Center. August.

SEPTORIA CERASINA *n. sp.*

Spots scattered or confluent, rather small, subangular, brown or reddish-brown; perithecia few, collapsed when dry, appearing as if margined, pallid or amber-colored; tendrils whitish; spores long, filiform, generally strongly curved, .002′–.003′ long.

Lower surface of cherry leaves, *Prunus serotinus*. Lake Pleasant. August.

This is quite unlike *Phyllosticta sanguinea* Desm., as represented by specimens from the collection of that gentleman. Frequently only one perithecium occupies a spot.

SEPTORIA POLYGALÆ *P. & C. n. sp.*

Perithecia minute, scattered or clustered, black; spores filiform, slender, straight or slightly curved, .001′–0016′ long.

Dead leaves of *Polygala paucifolia*. Portage. *Clinton*. May.

SEPTORIA EMACULATA *P. & C. n. sp.*

Perithecia rather large, scattered, prominent, black; spores filiform, curved or flexuous, usually containing several nucleoli, .002′-.0035′ long.

Pods and living leaves of *Lathyrus palustris*. Buffalo. *Clinton*. July.

The leaves are without spots. The perithecia appear on one or both surfaces.

SEPTORIA DIFFORMIS *C. & P. n. sp.*

Spots suborbicular, brown; perithecia crowded, black, amphigenous; spores profuse, linear, straight or curved, hyaline, .0006′

long, oozing out and covering the spots with a white or glaucous bloom.

Living leaves of *Vaccinium Pennsylvanicum*. Lake Pleasant. August.

SEPTORIA ULMI *Kze.*

Elm leaves. New Baltimore. *Howe.* Catskill mountains.

EXCIPULA LEUCOTRICHA *n. sp.*

Perithecia small, scattered, the disk plane or slightly convex, orbicular, elliptical or elongated, black, surrounded by a few long septate whitish hairs; spores fusiform, colorless, .0003′–.0004′ long.

Dead grass leaves. West Albany. June.

The species is well marked by the pale delicate hairs of the perithecium.

DISCELLA MACROSPERMA *n. sp.*

Perithecia obsolete; mass of spores prominent, reddish-brown or blackish, pale when moist; spores oblong, straight or slightly curved, often narrowed toward one end, colorless, .0013′–.0016 long, .0004′ broad, containing a granular endochrome.

Dead bark of willows. North Greenbush. July.

DISCELLA PLATANI *n. sp.*

Pustules small, erumpent, pallid; spores subelliptical or oblong, smooth, deciduous, colorless, .0003′–.0005′ long.

Dead twigs of buttonwood, *Platanus occidentalis*. Bethlehem. May.

The sporophores rarely remain attached to the spores and these have no granular aspect as in *D. platyspora*.

DISCELLA KALMIÆ *n. sp.*

Pustules small, erumpent, at length blackish, the perithecia mostly deficient above and somewhat excipuliform; spores oblong-obovate, sometimes slightly curved, colorless, .0004′–.0006′ long.

Dead stems of sheep laurel, *Kalmia angustifolia*. Sandlake. June.

MELANCONIUM PALLIDUM *n. sp.*

Stroma small, yellowish; spores oozing out in a blackish mass, separately pallid or almost colorless, ovate or oblong, often slightly curved and subcymbiform, .0006′–.0007′ long.

Dead branches of *Carya alba*. West Troy. June.

The species is remarkable for the pale color of the spores. These sometimes contain two or three large nuclei. (Plate 1, figs. 7 and 8.)

SPORIDESMIUM CONCINNUM *Berk.*

Decaying wood. Markham Station. *Clinton.* May.

CLASTERISPORIUM UNCINATUM *Clinton n. sp.*

Thinly effused, blackish-brown; spores large, subfusiform, straight or curved, five to seven-septate, colored, .0016′–.002′ long, tapering below into the pale or colorless septate short pedicel which is strongly curved, coiled or uncinate at the narrowed base.

Lower surface of fallen oak leaves. Buffalo. *Clinton.* Nov.

The cells of the spores are often nucleate, and the terminal cell is sometimes truncate and paler than the others. The uncinate base of the pedicel is a characteristic feature. (Plate 1, figs. 9 and 10.)

C. pedunculatum, which in a former report was referred to this genus, must be placed in the genus *Helminthosporium*. It becomes *H. attenuatum* C. & P.

PHRAGMIDIUM GRACILE *Grev.*

Leaves of *Rubus odoratus.* Bethlehem, Trenton Falls and Watkin's Glen. September.

This plant was formerly reported as a variety of *Phragmidium mucronatum*, but having compared it with authenticated European specimens of both forms of that species, I am satisfied that our plant is distinct. In the Uredo form the spots are more definite, the sori and spores are larger and the latter have a more coarsely-roughened epispore. In the Brand form the spores are longer and yet more narrow, the papillæ are more prominent and the mucro is generally longer and roughened.

PUCCINIA GENTIANÆ *Strauss.*

Leaves of *Gentiana Andrewsii*, Buffalo. *Clinton.* August.

PUCCINIA CALTHÆ *Lk.*

Leaves of *Caltha palustris.* Buffalo. *Clinton.* July.

PUCCINIA PHYSOSTEGIÆ *P. & C. n. sp.*

Spots none; sori evenly scattered, small, rotund, surrounded by the ruptured epidermis, blackish-brown; spores elliptical, scarcely constricted, .0014′–.0016′ long, .0008′–.001′ broad; pedicels short, slender.

Lower surface of leaves of *Physostegia Virginiana.* Strawberry Island. *Clinton.* August. (Plate 2, figs. 25 and 26.)

UROMYCES CLAYTONIÆ *C. & P. n. sp.*

Sori amphigenous, scattered, small, ovate or elliptical, brown; spores oval or elliptical, with a slight apiculus, .0013′–.0016′ long, about .001′ broad; pedicels slender, short, hyaline.

Leaves of *Claytonia Caroliniana.* Cold Spring. June.

USTILAGO CANDOLLEI *Tul.*

Heads of flowers of *Polygonum sagittatum.* Forestburgh. September.

The more even and darker colored spores separate this from *U. utriculosa.*

USTILAGO MONTAGNEI *Tul.* var. major *Desm.*

Heads of flowers of *Rhynchospora glomerata.* Long Island. *E. S. Miller.*

The larger size of the spores, with their remarkable pustules, serve to distinguish this from *U. Montagnei*, to which, as a variety, it is referred. I have thought it worthy of illustration. (Plate 1, figs. 11–12.)

COLEOSPORIUM OCHRACEUM *Bon.*

Leaves of *Agrimonia Eupatoria.* Greenport. July.

This is *Uredo Agrimoniæ* Schw. according to Dr. Curtis.

CYSTOPUS PORTULACÆ *DC.*

Leaves of purslane, *Portulaca oleracea.* Sandlake and Fishkill. August and September.

CYSTOPUS SPINULOSUS *De Bary.*

Leaves of Canada thistle, *Cirsium Canadense.* Buffalo. *Clinton.*

GRAPHIOLUM PHŒNICIS *Poit.*

Leaves of *Phœnix dissectifolia.* Conservatories, Buffalo. *Clinton.* May.

STILBUM VULGARE *Tode.*

Decaying wood. Sandlake. August.

STILBUM SMARAGDINUM *A. & S.*

Decaying wood. Markham Station. *Clinton.* May.

EPICOCCUM NEGLECTUM *Desm.*

Decaying stems of Indian corn, etc. Buffalo. *Clinton.* North Greenbush. July.

The spores in our specimens often exceed the dimensions given in the description of this species.

ÆGERITA CANDIDA *Pers.*

Decaying wood. Grand Island and Sodus Bay. *Clinton.* October and November.

PERICONIA TRUNCATA *C. & P. n. sp.*

Scattered, black; stem rather thick, composed of loosely compacted

slender septate threads; capitulum expanded, truncate; spores elliptical, attenuated towards either end.

Dead branches of apple trees. Center. May.

PERICONIA CORTICALIS *C. & P. n. sp.*

Scattered, black; stem erect, rigid, composed of slender septate threads which are free at the apex forming a subglobose head and bearing at the tips minute globose spores, .00012′ in diameter.

Bark of *Thuja occidentalis*. Adirondack Mts. July.

HELMINTHOSPORIUM OÖSPORUM *Cd.*

Dead stems of grape vines. Watkins. September.

HELMINTHOSPORIUM EPISPHÆRICUM *C. & P. n. sp.*

Flocci rather long, tufted, slender, flexuous, septate, rarely branched, blackish-brown; spores oblong-clavate, three to four septate, .002′–.003′ long, truncate at the apex, the second and third cells from the top generally more highly colored than the others.

On some effete Diatrype. Albany. August. (Pl. 2, figs. 18–20.)

CERCOSPORA CALLÆ *P. & C. n. sp.*

Spots definite, narrow, oblong, pallid; flocci amphigenous, minutely tufted, short, flexuous, somewhat nodulose, not at all or indistinctly septate, slightly colored, cinereous or subolivaceous in the mass; spores colorless, terminal, at first simple, then elongated and one to five-septate, nearly straight, cylindrical or obclavate, .001′–003′ long.

Living leaves of *Calla palustris*. Buffalo. *Clinton*. August.

PERONOSPORA PYGMÆA *Ung.*

Leaves of *Anemone Pennsylvanica*. Bethlehem. May and June.

PERONOSPORA EFFUSA *Grev.*

Leaves of *Chenopodium album*. West Albany. August and Sept.

RAMULARIA NEMOPANTHIS *C. & P. n. sp.*

Spots brownish, rather irregular; flocci hypophyllous, fasciculate, short, delicate; spores fusiform or cylindrical, .0008′ long, .0002′ broad.

Living leaves of *Nemopanthes Canadensis*. Buffalo. *Clinton*. Kasoag. July.

POLYACTIS PULVINATA *B. & C.*

Dead trunks and branches of alders. Center. October.

OIDIUM LEUCOCONIUM *Desm.*

Living rose leaves. Conservatories, Buffalo. *Clinton*.
Wild rose leaves. West Albany. July and November.

Judge Clinton remarks that the fungus curls and kills the leaves of the cultivated roses. The fungus is now regarded as a state of *Sphærotheca pannosa*, the perfect condition of which we have not yet seen.

STYSANUS STEMONITIS *Cd.*

Fallen leaves of *Amelanchier Canadensis.*

Our specimens do not fully agree with the description and are therefore referred here with some hesitation. The stem is black and has a decidedly swollen or bulbiform base so that, after the spores have fallen, the plant might readily be taken for a Sphæria with a long subulate ostiolum.

DACTYLIUM ROSEUM *Berk.*

On apples. Albany. November.

The apples were first attacked by *Spilocæa Pomi*, then on these affected spots this fungus appeared, forming a whitish, scarcely roseate, effused pulverulent mass.

FUSISPORIUM PHYLLOGENUM *C. & P. n. sp.*

Hypophyllous, collected in suborbicular spots; flocci fasciculate, simple or branched, nodulose; spores cylindrical, curved, three to seven-septate, colorless, .0025′–.003′ long.

Living leaves of *Erigeron annuum.* Bethlehem. October.

FUSISPORIUM PARASITICUM *n. sp.*

Flocci delicate, tufted, sometimes branched, white; spores unequal in length, three to five-septate, straight or curved, usually pointed at one end and obtuse at the other, colorless, .0012′–.002′ long.

On *Sphæria Collinsii.* Center. July.

ZYGODESMUS HYDNOIDES *B. & C.*

Decaying wood. Buffalo. *Clinton.* September.

CHÆTOMIUM FUNICOLUM *Ck.*

Old broom. Albany.

The specimens are old and without asci and are to this extent doubtful, but they appear to belong here.

UNCINULA GENICULATA *Ger.*

Leaves of *Morus rubra.* Poughkeepsie. *Gerard.* September.

GEOGLOSSUM NIGRITUM *Pers.*

Marshy ground in woods. Greig. September. (Plate 1, figs. 20–22.)

Externally this species resembles *G. Peckianum*, from which it is

separated by its spores paraphyses and somewhat porous club. From *G. glabrum* it is at once distinguished by its glabrous stem and the longer, not moniliform, terminal joints of the paraphyses. Its spores scarcely differ from those of *G. glabrum* except in being more narrow.

The spores of *G. glabrum* having been described in the Handbook as three to four-septate, I was led to consider a similar plant with seven-septate spores as distinct and described it in the 25th Report under the name *Geoglossum simile*. But the description on which I relied proves to have been erroneous, and the spores of *G. glabrum* have since been published as seven septate, so that *G. simile* of the 25th Report becomes a synonym of *G. glabrum*.

The application of the specific name *glabrum* to the plant designated by it is unfortunate and liable to mislead the student, for the stem is covered by a kind of minutely-tufted tomentum of matted septate filaments, which, with the projecting masses of spores from the mature club, give the plant a scarcely less hairy aspect than that of *Geoglossum hirsutum*.

PEZIZA IMPERIALIS *n. sp.*

Bright sulphur-yellow; cups irregular, six to twelve lines broad, often split on one side, with the margin incurved, externally pruinose-tomentose, the disk glabrous, becoming slightly orange-tinted in drying; stem thick, somewhat lacunose, usually narrowed at the top, four to eight lines high; asci cylindrical; spores elliptical, .0004′ long, .0002′ broad; paraphyses filiform, slightly thickened at the top.

Ground in woods. Greig. September.

In consequence of the bright color the plant is quite showy. The external pruinosity is due to the presence of a minute tomentum. The species is apparently allied to *P. sordescens* B. & C., but unless that species is badly described our plant must be distinct. (Plate 1, figs. 13–15.)

PEZIZA GRISEO-ROSEA *Ger.*

Ground in woods. Knowersville and Sandlake. July and August.

PEZIZA ALBOSPADICEA *Grev.*

Ground in woods. Sandlake. August.

PEZIZA BRONCA *n. sp.*

Cups gregarious or crowded, sessile, subhemispherical, four to nine lines broad, whitish or very pale-buff, externally roughened by small crowded whitish warts; asci cylindrical; spores elliptical, one to two-nucleate, .0008′–.0009′ long, .0005′ broad.

Ground. Knowersville and Sandlake. July and August. (Plate 2, figs. 10–12.)

PEZIZA LONGIPES *C. & P.*

Petioles of fallen leaves. Memphis. August.

PEZIZA AGROSTINA *n. sp.*

Cups scattered, small, .02′–.03′ broad when dry, subsessile, hemispherical or subglobose, externally hairy, of a dull pinkish hue, the hairs of the margin bent inwards when moist, usually with longer subulate whitish points, the others not subulate, often rough and more or less septate; disk pallid or cream-colored; asci cylindrical; spores subcylindrical, .00025′–.0003′ long; paraphyses broad, longer than the asci, tapering upwards to a point.

Dead stems of *Calamagrostis Canadensis*. West Albany. June.

The peculiar paraphyses indicate an alliance with *P. apala*, *P. brunneola*, etc. The species belongs to the *Dasyscyphæ*.

PEZIZA SUBTILISSIMA *Ck.*

Dead branches of pine. West Albany. July.

PEZIZA VIRGINELLA *Ck.*

Fallen leaves. Center. May.

PEZIZA PINASTRI *C. & P.*

Dead pine leaves adhering to cut branches. Center. May.

PEZIZA THALICTRI *n. sp.*

Cups abundant, sessile, bursting through the epidermis, small, punctiform when dry, externally black, the margin usually whitish or cinereous and subfimbriate; disk cinereous; asci oblong; spores crowded, elongated, simple or multinucleate, .001′–.0012′ long, .0002′ broad.

Base of dead stems of *Thalictrum cornuti*. Center. May.

When moist the cups expand, revealing the disk. The substance is then so much swollen that the black exterior breaks up into small scales, giving a scabrous appearance to the cups. The species should be referred to the section *Mollisia*.

HELOTIUM SAPROPHYLLUM *C. & P. n. sp.*

Minute, stipitate, ochraceous; cups plane; stems slender, slightly thickened upwards, as long as or longer than the diameter of the cup; asci sublanceolate; spores lanceolate or somewhat clavate, biseriate, one to two-nucleate, .0008′ long, .00025′ broad.

Fallen leaves. Lake Pleasant. August.

The species is closely related to *H. fastidiosum* but is smaller throughout.

HELOTIUM HYDROGENUM *n. sp.*

Gregarious or scattered, sessile, smooth, externally brownish; disk nearly plane, margined, pallid or yellowish, becoming tinged with brown or green in drying; asci subclavate; spores subcylindrical, slightly curved, often containing several minute nuclei, .0005′–.0006′ long.

Decaying wood lying in water. Sandlake. July.

The plants on the upper surface of the wood have the disk more yellow than those just at or beneath the surface of the water. They were associated with *Mitrula paludosa* and *Vibrissea Truncorum*.

ASCOBOLUS FURFURACEUS *Pers.*

Excrement of cattle. Buffalo. *Clinton*. Sandlake and West Albany. July and August.

When fresh the cups have a beautiful greenish-yellow color.

ASCOBOLUS CILIATUS *Schm.*

Excrement of cattle. Buffalo. *Clinton*. November.

TYMPANIS GYROSA *B. & C.*

Dead branches of apple tree. Silver Lake. *Clinton*. June.

BULGARIA PURPUREA *Fckl.*

Decaying wood. Ponghkeepsie. *Gerard*. Buffalo. *Clinton*. Greig, East Worcester and Catskill Mts. July to September.

The long spores, .0006′–.001′, separate this from *B. sarcoides*.

STICTIS VERSICOLOR *Fr.*

Dead branches and decaying wood. Buffalo. *Clinton*. West Troy. July.

STICTIS FILICINA *n. sp.*

Pustulate, erumpent, surrounded by the lacerated epidermis; disk plane or concave, pallid or cream-colored; spores filiform, .0016′–.002′ long.

Dead stems of *Osmunda cinnamomea*. Center. May.

The pustules are numerous and brownish at first. The covering epidermis is at length lacerated, the numerous narrow suberect laciniæ retaining their brownish hue.

HYPOCREA CHROMOSPERMA *C. & P. n. sp.*

Fleshy, soft, convex, orbicular, one to two lines broad, flattened and patellate when dry, whitish or watery tan-color; ostiola slightly prominent; asci cylindrical; spores quadrate-globose, brownish when mature, .00016′–.0002′ in diameter.

Decaying wood. Buffalo. *Clinton*. Greenbush and Croghan. July to September.

The colored spores are a noticeable feature.

HYPOCREA PATELLA *C. & P. n. sp.*

Fleshy, patellate, discoid, one to two lines broad, pale ochraceous; asci cylindrical; spores globose, sixteen, hyaline, .00012′–.00016′ in diameter.

Decaying wood. Buffalo. *Clinton*. March and April.

This plant resembles externally some species of Helotium. The ostiola are smaller and less prominent than in the preceding species.

HYPOCREA RUFA *Fr.*

Dead alders. Center.

HYPOCREA APICULATA *C. & P, n. sp.*

Fleshy, soft, growing in irregular patches, smooth, ochraceous inclining to orange, the extreme margin barren; asci cylindrical; spores fusiform, with an apiculus at each extremity, uniseptate, colorless, .0011′–.0015′ long, .0003′–.0004′ broad.

Ground and rocks. Catskill Mts. and Sandlake. June to August.

The color of the ostiola in this species is variable, ranging from amber to orange.

HYPOMYCES TRANSFORMANS *n. sp.*

Subiculum effused, variable in color, pallid, golden-yellow, ochraceous or brick-red; perithecia ovate or subglobose, papillate, sunk in the subiculum; ostiola prominent, obtuse, amber or orange; asci cylindrical; spores fusiform, apiculate at each end, somewhat rough, simple or rarely with the endochrome obscurely divided, colorless, .0013′–.0015′ long.

Parasitic on *Cantharellus cibarius*, which it transforms into an irregular mass. Sandlake. August.

The spores of *Hypocrea apiculata* resemble those of this and other species of *Hypomyces*, but the plant is not "parasitic on fungi," an essential character in the genus *Hypomyces* as at present defined. Neither do its spores agree well with the spore-character of the genus *Hypocrea* to which the species is referred, so that the plant must be regarded as an aberrant species intermediate between the two genera. It therefore becomes a question whether the two genera are well separated and whether they ought not to be reunited.

MELOGRAMMA SUPERFICIALIS *P. & C. n. sp.*

Stroma superficial, depressed, one to two lines broad, pale or yellowish within; perithecia unequal, more or less irregular, crowded,

depressed, blackish-brown or black; asci very broad, varying from subglobose to oblong-clavate, fugacious; spores oblong, obtuse, fenestrate, slightly constricted at the center and appearing uniseptate, .001′–.0013′ long.

Bark of living mountain ash, *Pyrus Americanus*. Buffalo. *Clinton*. May.

DOTHIDEA FILICINA *Fr.*

Dead stems of *Pteris aquilina*. Center. May.

The spores in our specimens are oblong-fusiform, triseptate, .001′–.0012′ long, either with or without a hyaline appendage at each end.

DIATRYPE SMILACICOLA *Schw.* (*Hypoxylon Smilacicola* Howe.)

Dead stems of Smilax. Yonkers. *Howe*.

DIATRYPE CEPHALANTHI *Schw.*

Dead stems of *Cephalanthus occidentalis*. Buffalo. *Clinton*. July. Catskill.

It belongs to the section *Diatrypella*.

DIATRYPE ADUSTA *C. & P. n. sp.*

Pustules small, slightly elevated, subconical, blackish, covered by the epidermis which is pierced by the very small disk; stroma white; ostiola few, small, black; asci cylindrical; spores uniseriate, simple, elliptical, colored, .0007′–.0009′ long.

Dead branches. New Baltimore. *Howe*.

VALSA TRICHISPORA *C. & P. n. sp.*

Small, pustulate; stroma cortical, pale ochraceous as well as the erumpent disk; perithecia few, dark-brown when mature; ostiola exserted, quadrisulcate; asci clavate; spores filiform, hyaline, five to seven-septate, .0024′ long, .0001′ broad.

Dead twigs of oak. Greenbush.

It looks like a miniature *Valsa leiphemia*.

VALSA TUMIDULA *C. & P. n. sp.*

Erumpent, piercing the elevated discolored cuticle, ultimately exposing the blackened disk; perithecia four to six, semi-immersed in the wood, circumscribed by a black line; ostiola obtuse, quadrisulcate; asci clavate; spores linear, straight or curved, obtuse, hyaline, .0004′–.0005′ long.

Dead branches of Cratægus. Garrisons. June.

VALSA CINCTULA *C. & P. n. sp.*

Pustulate; perithecia few, clustered, black; ostiola cylindrical, thick, piercing the whitish disk which encircles them with an irregular white ring; asci clavate; spores fasciculate, linear, multinucleate, at length three to seven-septate, .0024′ long, .0002′ broad.

Dead branches of chestnut. Guilderland. May. (Plate 2, figs. 21–24.)

VALSA FRAXINICOLA *C. & P. n. sp.*

Pustulate, perforating the epidermis; perithecia ovoid, black, circinating; ostiola rather long, convergent, somewhat quadrisulcate; asci clavate; spores minute, sausage-shaped, crowded at the apex of the asci.

Ash branches. Tyre. September.

VALSA LINDERÆ *n. sp.*

Pustules small, rather prominent, crowded or scattered, closely surrounded by the ruptured epidermis, circumscribed by a black line; ostiola crowded, short, dull black, obliterating the blackish disk; perithecia usually four to six, nestling in the inner bark; asci slender, clavate; spores eight, yellowish in the mass, cylindrical, curved, obtuse, .0003′–.0005′ long.

Dead branches of the spice bush, *Lindera Benzoin*. Albany. July.

VALSA LEPTASCA *P. & C. n. sp.*

Subpustulate, blackish, erumpent; perithecia small, numerous, tapering above into the papillate or subconical ostiola; asci elongated, cylindrical, slender; spores uniseriate, simple, oblong or elliptical-oblong, usually binucleate, colorless, .0003′ long.

Dead branches of *Rhus typhina*. Buffalo. *Clinton*. July and August.

Sometimes the pustules are confluent or effused, in which case the plant might be taken for a Sphæria.

SPHÆRIA COLLINSII *Schw.*

Leaves of *Amelanchier Canadensis*. Center. May.

This remarkable Sphæria was found in considerable quantity in the locality mentioned. It attacks all the leaves on an affected branch, and even the branch itself gives indications of the presence and influence of the fungus. It is more or less contorted, swollen and deflected toward the ground. The upper surface of the leaves assumes a dark-green or lurid hue, the lower surface being wholly occupied by matted filaments, the subiculum of the Sphæria. This

is at first olive-brown in color, but at length black spots appear upon it. These gradually enlarge until the whole surface becomes black. With this change in the color of the subiculum, the perithecia appear, but they do not, apparently, perfect their spores until the following spring, spore-bearing specimens having been found in May. The affected leaves adhere to the branch during the winter and the early part of the following summer. These dry leaves, when seen among the surrounding green leaves that put forth before these have fallen, together with the drooping branch that bears them, are deceptively imitative of dead leaves on a branch that has been broken down but still adheres by a shred to the parent trunk. The young fungus commences its growth before the old one of the previous year has disappeared. I have taken from the same tree, at the same time, old leaves bearing the mature Sphæria, and young leaves bearing the subiculum and young perithecia of the succeeding crop. The fungus does not appear to kill the branch it attacks.

As Schweinitz does not describe the fruit of this fungus I subjoin the following description of its characters:

Asci cylindrical; spores uniseriate, abruptly narrowed at one end and divided by an obscure septum into two very unequal parts, colorless, .0004′–.0005′ long.

This fungus is manifestly closely allied to *Sphæria morbosa*, which some European mycologists have referred to the genus *Cucurbitaria*, but as the erumpent character of the Cucurbitariæ is not present in *S. Collinsii*, the species is left where Schweinitz placed it.

SPHÆRIA (VILLOSÆ) CÆSARIATA *C. & P. n. sp.*

Perithecia gregarious, about .012′ in diameter, subglobose, papillate, black, shining, beset with scattered erect rigid septate black hairs; asci cylindrical or clavate; spores biseriate, narrowly fusiform, five to seven-septate, greenish, .0015′–.0017′ long, each cell nucleate.

Decaying wood. Portville. September.

SPHÆRIA (VILLOSÆ) LEONINA *C. & P. n. sp.*

Perithecia subconfluent or rarely scattered, dark-brown, oval, covered with a short thick tawny-orange tomentum, the papillate apex naked; asci clavate or cylindrical; spores biseriate, lanceolate, uniseptate, constricted, at length triseptate, brown, .0014′–.0015′ long; paraphyses slender, filiform.

Cut surface of wood. Portville. September.

SPHÆRIA FIMETI *Pers.*

Horse dung. Sandlake. July.

SPHÆRIA OBDUCENS *Fr.*

Ash branches. Bethlehem. June.

SPHÆRIA SPERMOIDES *Hoffm.*

Decaying wood. Buffalo. *Clinton.* May.

SPHÆRIA (DENUDATÆ) SALEBROSA *C. & P. n. sp.*

Perithecia gregarious or crowded, globose, rough, black, depressed and umbilicate, pierced at the apex and faintly radiately sulcate, .02′–.03′ broad; asci cylindrical or clavate; spores lanceolate, acute uniseptate, constricted at the septum, brown, .0014′–.002′ long, .0003′–.0004′ broad; paraphyses numerous, filiform.

Dead stems of shrubs. Center. October.

SPHÆRIA (DENUDATÆ) RECESSA *C. & P. n. sp.*

Perithecia gregarious, at first semi-immersed, smooth, flattened, dark-brown or black, .012′ broad; asci subclavate; spores one or two-seriate, elliptical, uniseptate, deeply constricted at the septum, colorless, .0005′–.0008′ long, .00025′–.0004′ broad.

Decaying wood. Tyre. September.

The perithecia have a somewhat discoid appearance.

SPHÆRIA (DENUDATÆ) SQUALIDULA *C. & P. n. sp.*

Perithecia gregarious, globose, semi-immersed, pierced at the apex, about .012′ broad, black; asci cylindrical; spores uniseriate, elliptical, simple, binucleate, colorless, .0005′–.0007′ long.

Decaying chestnut wood. Portville. September.

SPHÆRIA (DENUDATÆ) INTERSTITIALIS *C. & P. n. sp.*

Perithecia gregarious, at first semi-immersed, always apparently so by nestling between the fibres of the wood, subglobose, pierced at the apex, black, .012′–.02′ in diameter; asci cylindrical; spores uniseriate, polymorphous, triseptate, with occasional vertical septa, deeply constricted, brown, .0012′–.0014′ long, .0005′–.00065′ broad.

Decorticated wood of cherry. Greenbush. November.

SPHÆRIA EXILIS *A. & S.*

Decaying wood. Markham Station. *Clinton.* May.

SPHÆRIA SPICULOSA *Pers.*

Dead branches. North Greenbush. July.

SPHÆRIA OBTUSISSIMA *B. & C.*

Decaying maple wood. Sandlake. July.

I depend upon specimens received from the late Dr. Curtis for the validity of this determination as I have seen no description of the species.

SPHÆRIA (OBTECTÆ) CEANOTHINA *n. sp.*

Perithecia small, scattered or rarely two or three crowded together, smooth, subglobose; ostiola piercing the epidermis, somewhat rugged, often curved or deformed; spores crowded or biseriate, oblong, obtuse, sometimes curved, colorless, .0005′–.0006′ long.

Dead stems of *Ceanothus Americanus*. Center. May.

SPHÆRIA (OBTECTÆ) MELANTERA *n. sp.*

Perithecia gregarious, minute, covered by the blackened epidermis; asci linear; spores crowded or biseriate, oblong or subfusiform, triseptate, slightly constricted at the septa, colored, .0005′–.0007′ long.

Dead stems of raspberry, *Rubus strigosus*. Center. May.

SPHÆRIA (CAULICOLÆ) FULGIDA *C. & P. n. sp.*

Perithecia gregarious, sometimes disposed in lines, soon free, globose, black, smooth, shining, scarcely papillate, .01′–.012′ in diameter, at length collapsed; asci clavate or cylindrical; spores filiform, curved or flexuous, multinucleate, at length multiseptate, colorless, .003′ long.

Dead stems of herbs. Albany. May.

This is allied to *S. rubella*, *S. acuminata*, *S. Bardanæ* and *S. Urticæ*.

SPHÆRIA (CAULICOLÆ) SMILACININA *n. sp.*

Perithecia abundant, minute, at first covered by the thin often blackened epidermis, slightly prominent; asci cyliudrical or subclavate; spores crowded, ovate or unequally elliptical, pale greenish-yellow, .0005′–.0006′ long, usually containing a single large nucleus.

Dead stems of *Smilacina stellata*. Center. May.

SPHÆRIA (CAULICOLÆ) MINUTELLA *n. sp.*

Perithecia minute, somewhat flattened, black, the upper part at length breaking away leaving the base attached to the matrix; asci sublanceolate; spores oblong, simple, colorless, .0003′ long.

Dead stems of herbs. North Greenbush. June.

SPHÆRIA CULMIFRAGA *Desm.*

Dead stems of grass. Watkins. September.

SPHÆRELLA COLORATA *n. sp.*

Spots orbicular, small, scattered or rarely confluent, reddish-brown, usually with a darker margin; perithecia minute, black, epiphyllous; asci cylindrical; spores cylindrical or subfusiform, uniseptate, colorless, .0006′–.0007′ long.

Living leaves of sheep laurel, *Kalmia angustifolia*. Center. July. The spots are more distinctly margined on the upper than on the lower surface of the leaf. They are sometimes greyish. Plate 2, figs. 15–17.)

(5.)

PLANTS PREVIOUSLY REPORTED—REMARKS AND OBSERVATIONS.

The first twelve species of fungi here given were reported without description. They are now repeated with descriptions.

DOTHIDEA CLAVISPORA. (*Hysterium clavisporum* C. & P.).

Stroma small, oblong, elliptical or linear, at first covered by the epidermis, then erumpent, longitudinally striate under a lens, black; asci clavate; spores crowded, clavate, multiseptate, colored, .001′–.0013′ long.

Dead stems of *Phragmites communis*.

The fungus frequently grows in long lines or series. Mature fruit-bearing specimens especially occur on the older and more discolored stems. The septa are from five to nine, the intervals between them being very short. The basal cell is usually the longest.

HYSTERIUM EXARIDUM *C. & P.*

Superficial, seated on irregular bleached spots; perithecia elliptical, minutely rugose, opaque, black; lips elevated, paler, connivent; asci clavate; spores filiform, hyaline.

Fallen leaves of *Kalmia angustifolia*.

COLPOMA JUNIPERINUM *C. & P.*

Perithecia gregarious, oblong or elliptical, sometimes slightly elongated and flexuous, covered by the epidermis which is ultimately ruptured in an irregular manner, blackish, disk pallid, at length exposed; asci clavate; spores filiform; paraphyses slender, filiform, at first curved or circinate at the tips.

Bark of *Juniperus Virginiana*.

DIATRYPE MORBIDES *C. & P.*

Rather small, erumpent, the disk at length obliterated by the crowded somewhat prominent hemispherical black ostiola; perithecia crowded, blackish; asci cylindrical; spores uniseriate, oblong, uniseptate, colored, .0005′–.0006′ long, about .0002′ broad.

Dead alders.

VALSA BICINCTA *C. & P.*

Erumpent; stroma dirty-white, mealy; perithecia six to ten, subglobose, disposed in circles, black; ostiola elongated, convergent; disk whitish, surrounded by a black line, at length obsolete; asci cylindrical; spores biseriate, fusiform, four-nucleate, .0004′–.0005′ long.

Dead branches of *Juglans cinerea*.

The spores in dried specimens sometimes have the appearance of being uniseptate or even triseptate from the division of the endochrome.

LOPHIOSTOMA TURRITUM *C. & P.*

Perithecia subgregarious, emergent, prominent, subglobose, black, with broad compressed truncate necks; ostiola elongated; asci cylindrical or clavate; spores oblong-elliptical, five-septate, brown, .0008′–.0009′ long.

Dead willow branches.

The turret-shaped perithecia give a spinulose appearance to the twigs. The lips of the compressed ostiola are linear as in Hysterium.

LOPHIOSTOMA MAGNATUM *C. & P.*

Perithecia subgregarious, semi-immersed, globose, rather large, somewhat thin and fragile, pitchy-black; ostiola short, compressed; asci cylindrical or clavate; spores biseriate, lanceolate, constricted in the center, three to five-septate, .002′–.0023′ long.

Decaying wood. It some resembles *L. macrostomum* in habit.

SPHÆRIA (VILLOSÆ) MUTANS *C. & P.*

Perithecia rather large, .026′–.036′ broad, gregarious or crowded, globose, papillate, black, at first clothed with a thin tawny evanescent tomentum, at length naked, smooth, shining; asci subcylindrical; spores uniseriate, elliptical, brown, .0004′–.0005′ long.

Decaying wood.

The species is allied to *S. mutabilis* Pers.

SPHÆRIA (VILLOSÆ) VIRIDICOMA *C. & P.*

Perithecia erumpent, then superficial, two or three together, ovate, black, clothed with a dense greenish tomentum, .03′–.04′ broad; ostiola thick, prominent, naked; asci clavate or cylindrical; spores one to two-seriate; lanceolate, uniseptate and four-nucleate or triseptate, deeply constricted at each septum, colorless, .0013′–.0018′ long, .0003′–.0004′ broad.

Decaying beech wood and branches.

The two central cells of the spores are nearly globose.

SPHÆRIA (CAULICOLÆ) SEMEN *C. & P.*

Perithecia soon free, globose, clustered, pierced at the apex, black; asci clavate or cylindrical; spores biseriate, lanceolate, straight or curved, triseptate, deeply constricted in the center, colorless, .0012′–.0013′ long.

Fallen petioles of mountain ash, *Pyrus Americana.*

SPHÆRIA (CAULICOLÆ) SUBCONICA *C. & P.*

Perithecia conoid, flattened at the base, somewhat collapsed when dry, seated beneath the epidermis which is at length thrown off, black; asci cylindrical; spores triseptate, brown, .0012′ long, .0003′ broad.

Dead stems of herbs.

It resembles *S. Doliolum* in habit, but differs in fruit.

SPHÆRIA (CAULICOLÆ) RACEMULA *C. & P.*

Perithecia cæspitose, rugose, small, flattened, black, at length collapsed, separating with the epidermis which is pierced by the elongated cetiola; asci clavate, sessile; spores narrowly lanceolate, colorless, four-nucleate, .0006′ long.

Dead stems of *Epilobium angustifolium.*

AZALEA VISCOSA *L.*

This beautiful shrub has been found in the town of Schodack, Rensselaer county by *Rev. H. Wibbe.*

ARCEUTHOBIUM PUSILLUM *Pk.*

Mrs. L. A. Millington informs me that she has found this parasite growing on upland spruces, so that it is not limited to those growing in and around marshes.

RUMEX ENGELMANNI *Ledeb.*

Grassy grounds. Albany. *Prof. J. Hall.*

SCIRPUS MARITIMUS *L.*

Fine specimens were collected near Syracuse by *Mrs. Rust.*

BOTRYCHIUM MATRICARIÆFOLIUM *A. Braun.*

Lewis county. *Mrs. Barnes* and *W. W. Hill.*

In the development of a science like Mycology it is not possible wholly to avoid mistakes and the necessity of changes in names and arrangement. Recent European publications enable me to make some corrections in the nomenclature of previous reports.

AGARICUS NAUCINUS *Fr.*

In the new edition of Epicrisis this species is described as having *globose spores;* it therefore becomes necessary to regard as a distinct species the plant reported under this name in the 23d Report, p. 72. I propose for it the name *Agaricus* (*Lepiota*) *naucinoides*, and add to the description already given the following: *Spores subelliptical, .0003′–.00035′ long, .0002′–.00025′ broad, generally with a single large nucleus.*

The difference in the spores, the smoother pileus and absence of an umbo will separate this from *A. naucinus.*

There is also another closely related species, *A. Schulzeri* Kalchb., which is said to have *ovate spores*, a small annulus, an umbonate pileus and a nauseous taste, characters by which it may be readily distinguished from our plant. *A. lævis* Krombh., and *A. cretaceus* Fr., are also liable to be confused with this plant if the spores be neglected, the former being distinguished by its rosy or flesh-colored spores, the latter by its brown spores. Thus it appears that there are five species that are not easily separated except by their spore characters; a strong indication of the importance of publishing these characters with the descriptions of species.

AGARICUS PONDEROSUS *Pk.* Report 26, p. 50.

This name being preoccupied is changed to *Agaricus magnivelaris* Pk.

AGARICUS COPRINOIDES *Pk.* Report 26, p. 59.

This name also has been applied to a European species and I would therefore name the American plant *Agaricus plicatellus* Pk.

AGARICUS LILACINUS *Pk.* Report 24, p. 63.

This, too, is applied in Europe to a different species. I would therefore substitute for it the more appropriate one, *Agaricus lilacifolius* Pk.

PLICATURA ALNI *Pk.*

In the first edition of Epicrisis the genus *Trogia* is limited to coriaceous Agaricini having the lamellæ or folds longitudinally *channelled* on the edge. In the Handbook of British Fungi the generic character of *Trogia* is so modified as to include species with *crisped* lamellæ, and *Cantharellus crispus* is referred to this genus. Also, in the second edition of Epicrisis the phrase "in spec. Europæa modo crispæ" is parenthetically inserted in the generic description of *Trogia* and *C. crispus* becomes *Trogia crispa.* If this classification is to be adopted and followed then *Plicatura Alni* must be changed to *Trogia Alni.* The reasons for its adoption are twofold. First it is the arrangement of the venerable Fries, the life-long student of fungi, who probably has no equal in the knowledge of the Agaricini

and in the ability to judge concerning the value of their characters and their proper classification; second, the unnecessary multiplication of genera founded on slight differences is to be deprecated.

BOLETUS RETIPES *B. & C.* Report 23, p. 132.

As soon as the characters of this species were published by Rev. M. J. Berkeley, it became evident that the plant I had hesitatingly referred to it and described in the location cited was distinct. There is no pulverulence to our plant nor does it have "pilei arising from a common base." I would, therefore, give it the name *Boletus ornatipes*. Either this or a closely related form is regarded by my friend, Mr. C. C. Frost, as a variety of *B. griseus*, but the yellow flesh and the tubes, which are also yellow from the first, indicate to my mind a specific difference. It is by having respect to such a difference in color that the whole genus has been divided into primary series, and it hardly seems fitting to throw together, as varieties of one species, forms thus separated.

THELEPHORA PALLIDA *Schw.*

This name, being preoccupied, must be changed. I would substitute for it, *Thelephora Schweinitzii*.

PUCCINIA TIARELLÆ *B. & C.* Report 25, p. 115.

Since the publication of this species, for the authenticity of which I depended upon specimens received from the late Dr. Curtis, Rev. Dr. Berkeley has published in Grevillea, 1874, p. 53, under the same name, a species which is clearly quite different. He also finds *Puccinia Saxifragarum* on Tiarella leaves. Neither can this be our plant, for *P. Saxifragarum* has its spores much broader and more obtuse. In view, therefore, of the peculiar circumstances attending the publication of these two species under the same name, I deem it the most courteous, if not the most correct way, to drop the name *P. Tiarellæ* from its connection with the plant described in the 25th Report, and substitute for it the name *Puccinia spreta* Pk., thus leaving *P. Tiarellæ* B. & C. for the species to which it has been applied by Dr. Berkeley.

UROMYCES PELTANDRÆ *Howe.*

Some account of the synonymy of this species seems desirable. In the synopsis of the Fungi of North Carolina, Dr. Schweinitz describes a fungus under the name *Uredo Caladii*, giving Caladium as its habitat. In his Synopsis of North American Fungi, he changes the name of this fungus to *Uredo Ari-Virginici*, adding the remark, perhaps as a reason for the change, "it is not Caladium but Arum on which it is found frequently." This remark admits of two interpretations depending upon the stress given to the last word. He may have found the fungus at first on Caladium and afterwards more frequently on Arum, or he may at first have mistaken the host plant, Arum, for Caladium, in which case the remark must have been

intended as a correction of that mistake, the word "frequently" being simply an additional idea. The latter appears to me to be the most natural interpretation. He does not mention the particular species in either case, but from the context it appears that the Caladium, real or supposed, was our present *Peltandra glauca*, and the Arum, our *Peltandra Virginica*. However this may be, the fungus inhabiting the latter plant was regarded as Schweinitz's species until Dr. Howe described it under the name *Uromyces Peltandræ*, and thus indicated more correctly its generic relations. He subsequently substituted the specific name *Ari-Virginici* for *Peltandræ*, but the law of priority works badly in this case, for the oldest name, *Caladii*, is manifestly inappropriate and was discarded by Schweinitz himself, and against the other there is, in the minds of some, an objection because of its compound character. *Uromyces Pontederiæ* Ger. is, according to specimens received from Mr. Gerard, on Peltandra leaves and not distinct from *U. Peltandræ*.

Until recently the Uromyces inhabiting the leaves of *Arisæma triphyllum* was considered specifically the same as the one on Peltandra leaves. Dr. M. C. Cooke has separated a form of this, in which the sori are clustered in spots, under the name *Uromyces Arisæmæ*. I am satisfied that this is not specifically distinct from the other form in which the sori are more evenly scattered over the whole surface of the leaf. There is no constant difference in the spores, and both forms manifestly run into each other in habit. Nor is there, in my opinion, any just ground for the separation of either from *U. Peltandræ* except perhaps as a variety, for the only appreciable differences I find between them are now and then a spore in the form on Peltandra leaves which slightly exceeds in size any that I find on Arisæma leaves and a greater tendency in the former to occupy the lower surface of the leaf, while in the latter there seems to be a greater tendency to occupy the upper surface. But both are frequently amphigenous in habit. I regard the following as the synonymy of the species:

Uredo Caladii *Schw.*	Synopsis Fung. Car.	No. 480.	
Uredo Ari-Virginici *Schw.*	Synopsis N. A. Fung.	No. 2839.	
Uredo " "	Rav. Fung. Car. Exsic.	Fasc. IV.	No. 96.
Uredo " "	Curtis Cat. N. C. Plants, p. 122.		
Uredo " "	N. Y. Cab. Rep., 23, p. 57.		
Uromyces Peltrandæ *Howe.*	Bull. Torr. Club.	1874,	p. 3.
Uromyces Ari-Virginici *Schw.*	" " "	"	p. 4.
Uromyces Pontederiæ *Ger.*	" " "	1875,	p. 31.
Uromyces Arisæmæ *Ck.*	" " "	"	p. 32.

Uromyces Lespedezæ *Schw.*

All our species of Lespedezæ are subject to the attacks of this fungus. The form that occurs on *L. capitata* usually has the spores and their pedicels a little longer than in the other forms and it was reported as distinct under the name *U. macrospora* B. & C., but I am now satisfied that it is unworthy of specific distinction. The form on

L. hirta was first described by Schweinitz as *Puccinia Lespedezæ-polystachiæ*, but afterwards, finding this fungus more abundant on *L. violacea*, he changed the name to *Puccinia Lespedezæ-violaceæ*. The fungus has for many years been referred to the genus Uromyces to to which it properly belongs.

The same author also published a fungus which he found on *L. procumbens*, giving it the name *Puccinia Lespedezæ-procumbentis*, and describing the spores as having a distinct septum after the manner of true Puccinia spores. This Puccinia does not appear to have been found by subsequent collectors, but the same Uromyces that occurs on other Lespedezæ is often found on L. procumbens also, and is sometimes designated as *Uromyces Lespedezæ-procumbentis* Schw., though this designation is wholly unwarranted by the description of Schweinitz's fungus. Inasmuch as the Uromyces is common to all our Lespedezæ it seems best to drop that part of its trivial name that implies a specific limitation to its habitat and write *Uromyces Lespedezæ* instead of *U. Lespedezæ-violaceæ*.

UROMYCES PYRIFORMIS *Ck.*

As this fungus was reported without description, the following characters, kindly furnished by Dr. Cooke, are now given:

Amphigenous, erumpent; sori linear, sometimes confluent, rather pulverulent, purple-brown, margined by the fissured cuticle; pseudospores pyriform, deep-brown, epispore thickened above; pedicels rather short, thick, persistent, colored in the upper portion.

On *Acorus Calamus*.

The species is very closely allied to *U. Sparganii*, but appears to differ in habit.

PILEOLARIA BREVIPES *B. & R.*

This occurs with us on both sides of the leaves of *Rhus Toxicodendron*, and is sometimes found associated with *Uredo Toxicodendri* B. & R., which is probably its Uredo-form. I suppose the latter fungus to be the one described in Grevillea 1874, p. 56, as *Uromyces Toxicodendri* B. & R., although it does not well agree with the generic character of Uromyces for the pedicels are by no means *permanent*, since it is difficult to find one attached even to an immature spore. In this respect it is nearer Trichobasis, as a species of which it was formerly reported.

PEZIZA ANOMALA *Pers.*

This is now generally admitted to be a species of Solenia. Some European mycologists consider it the same as *S. ochracea*, others regard it as distinct. The two are kept separate by Fries in his new edition of Epicrisis, and I am disposed to follow this arrangement, for so far as my observation goes they differ constantly in the color and shape of the tubes. *S. anomala* has also a tendency with us to grow in tufts, which I have not seen in *S. ochracea*.

PEZIZA SOLENIA *Pk.*

One author has referred this species to *Peziza Eupatorii* Schw. In establishing the species I depended upon the accuracy of Schweinitz's description, and in justification of my present opinion of the validity of it I quote the full description of *P. Eupatorii*, italicizing those parts not applicable to *P. Solenia.*

"P. EUPATORII L. V. S., *versus radices* in *maximis* caulibus emortuis Eupatorii *purpurei et maculati*, Bethl.

P. *gregaria, cupulis bi-vel tri-linearibus, madefactis explanatis, disco subconvexo, margine fere obliterato.* Siccitate connivens, sed non clausa, est hæc pezizula *rufo-carnea*, extus pilis nigrofuscis apice albescentibus *fasciculatim* obsita."

P. Solenia is not collected near the roots of the stems, but occurs more or less abundantly all along them even to the upper part. I have seen it on stems of *Eupatorium ageratoides* only, never on *E. purpureum* or its variety *maculatum.* The cups, instead of being two or three lines, are less than one-fourth of one line broad. The largest cups that I have seen do not exceed this measurement even when moist. In the moist state the cups become somewhat swollen but they assume no shape that could be called "explanate" or flattened. Even after long soaking the mouth still remains small and contracted, the disk, instead of being "subconvex," is still deeply concave, and to say that the margin was "almost obliterated" would be very far from the truth. The flesh and hymenium are whitish and the hairs are not fasciculate. Thus it appears that our plant differs in almost every respect from the description of *P. Eupatorii;* in habit, habitat, size, shape, color of flesh, etc., agreeing only in being connivent in dryness and in having an external covering of similarly colored hairs. Unfortunately, Schweinitz did not describe the fruit of his species so that the comparison can be carried no farther. But it does not seem necessary. No ordinary degree of variability in the species and no reasonable allowance for mistakes in the description would harmonize so many and so great discrepancies.

HELOTIUM THUJINUM *Pk.*

This is thought by some to be the same as *Peziza cupressina*, and doubtless there is a close resemblance between them. Had the latter plant been placed in the genus Helotium instead of Peziza, I should have regarded them as one species myself.

SPHÆRIA VERBASCICOLA *Schw.*

I have never seen this plant bearing the fruit of a Sphæria, but have seen the perithecia filled with a multitude of small elliptical hyaline spores .00016′—.00018′ long. The species should therefore be considered a Phoma until it is found with the fruit of a Sphæria.

SPHÆRIA SARRACENIA *Schw.*

Fertile specimens of this plant indicate that it belongs to the genus Sphærella.

SPHÆRIA SPINA *Schw.*

This plant, which was formerly reported under the name *Sphæronema Spina*, has recently been characterized by Dr. Berkeley as having very small globose spores. The plant which we had regarded as belonging to this species (Schweinitz gives no description of the spores), has spores quite different and must be described as distinct.

SPHÆRONEMA FRAXINI *n. sp.*

Perithecia nestling in the inner bark, covered by the epidermis which is pierced or ruptured by the long black rigid spiniform ostiola; globule whitish; spores long, slender, curved or flexuous, gradually tapering to a point at each end, generally multinucleate, colorless, .002′–.0025′ long.

Dead branches of ash, *Fraxinus Americana*.

The long rigid ostiola render the branch prickly to the touch. The fungus is sometimes found intermingled with *Tympanis Fraxini* of which it may be a condition.

(6.)

PARASITIC FUNGI OF NEW YORK AND THEIR SUPPORTING PLANTS.

But few species of the first great family of fungi, the HYMENOMYCETES, are inabitants of living plants. A single species and the members of a single anomalous genus comprise all with such a habitat that have hitherto been found within our limits. The species of *Exobasidium* attack and transform the buds and leaves of Ericaceous plants into soft gall-like swellings or excrescences. It is not known that they actually kill the plants they attack.

Fungus.	*Supporting plant.*
Solenia filicina *Pk*.....	Osmunda cinnamomea.
Exobasidium Azaleæ *Pk*.....	Azalea nudiflora.
E. Andromedæ *Pk*.....	Andromeda ligustrina.
E. Cassandræ *Pk*.....	Cassandra calyculata.

Of the second family, the GASTEROMYCETES, probably no member is strictly an inhabitant of living plants though several species occur on both living and dead plants. *Stemonitis herbatica* has as yet been detected only on living leaves and grass, but I do not think its habitat is thus limited.

The third family, the CONIOMYCETES, doubtless furnishes more fungi

inimical to living plants than all the others together. All the species of the three orders Pucciniei, Cæomacei and Æcidiacei find their dwelling place on such plants. They are popularly known by the names Rust, Brand, Smut and Cluster cups. Many of them have a dual form but usually both forms occur on the same plant. In such cases only the second or principal form is given. In *Phragmidium* the spores have a permanent pedicel and two to ten septa according to the species. The color of the spores is blackish-brown or black. They grow on the stems or leaves. In the earlier condition the spores are simple and yellow or orange. These early forms constituted the genus Lecythea.

Phragmidium speciosum *Fr*	Rose stems.
P. mucronatum *Lk*.....	Rose leaves.
P. gracile *Grev*	Rubus odoratus.
P. obtusum *Lk*	Potentilla Canadensis.
Triphragmium clavellosum *Berk*	Aralia nudicaulis.

In *Puccinia* the spores have a permanent pedicel and a single transverse septum. They grow in dense sori or masses of a rusty-brown, blackish-brown or black color. These masses are usually dot-like and are scattered uniformly over the leaves or are collected in clusters on more or less discolored spots. The earlier forms of the species have the spores simple and were formerly grouped in the genus Trichobasis.

Puccinia pulchella *Pk*	Ribes prostratum.
P. Prunorum *Lk*.....	Prunus serotina.
P. Anemones *Pers*.....	Anemone nemorosa. Thalictrum dioicum. T. Cornuti.
P. solida *Schw*	Anemone Virginiana. A. Pennsylvanica.
P. Calthæ *Lk*	Caltha palustris.
P. aculeata *Schw*	Podophyllum peltatum.
P. Violarum *Lk*	Violet leaves.
P. Lychnidearum *Lk*	Dianthus leaves.
P. Mariæ-Wilsoni *Clinton*.....	Claytonia Caroliniana.
P. Noli-tangeris *Cd*	Impatiens fulva.
P. Pyrolæ *Ck*	Polygala paucifolia.
P. Waldsteiniæ *Curt*	Waldsteinia fragarioides.
P. tripustulata *Pk*	Rubus villosus.
P. Peckiana *Howe*	R. occidentalis. R. strigosus.
P. curtipes *Howe*...	Saxifraga Pennsylvanica.
P. spreta *Pk*	Tiarella cordifolia.
P. Circææ *Pers*	Circæa alpina. C. Lutetiana.
P. bullariæ *Lk*	Sanicle stems.

Puccinia	Umbelliferarum *DC*.....	Archangelica atropurpurea.
P.	Cryptotæniæ *Pk*.....	Cryptotænia Canadensis.
P.	Osmorrhizæ *C. & P*.....	Osmorrhiza brevistylis.
		O. longistylis.
P.	porphyrogenita *Curt*.....	Cornus Canadensis.
P.	Galiorum *Lk*.....	Galium triflorum.
P.	Asteris *Schw*.....	Aster macrophyllus.
		A. cordifolius.
P.	purpurascens *C. & P*.....	A. acuminatus.
P.	Gerardii *Pk*.....	A. simplex.
P.	Virgaureæ *Lib*.....	Solidago altissima.
P.	Xanthii *Schw*.....	Xanthium Strumarium.
P.	Helianthi *Schw*.....	Helianthus divaricatus.
P.	investita *Schw*.....	Gnaphalium polycephalum.
P.	Cirsii *Lasch*.....	Cirsium lanceolatum.
		C. arvense.
P.	variabilis *Grev*.....	Taraxacum Dens-leonis.
P.	Lobeliæ *Ger*.....	Lobelia syphilitica.
P.	Dayi *Clinton*.....	Lysimachia ciliata.
P.	Clintonii *Pk*.....	Pedicularis Canadensis.
P.	Menthæ *Pers*.....	Mentha Canadensis.
		Monarda fistulosa.
		Hedeoma pulegioides.
P.	Physostegiæ *P. & C*.....	Physostegia Virginiana.
P.	Convolvuli *B. & C*.....	Calystegia Sepium.
P.	Gentianæ *Strauss*.....	Gentiana Andrewsii.
P.	amphibii *Fckl*.....	Polygonum amphibium.
		P. Pennsylvanicum.
		P. Virginianum.
P.	Smilacis *Schw*.....	Smilax rotundifolia.
P.	Veratri *Niessl*.....	Veratrum viride.
P.	mesomajalis *B. & C*.....	Clintonia borealis.
P.	obtecta *Pk*.....	Scirpus validus.
		S. pungens.
P.	angustata *Pk*.....	S. Eriophorum.
		S. sylvaticum.
P.	striola *Lk*.....	Carex crinita.
P.	caricina *DC*.....	C. stricta.
P.	Sorghi *Schw*.....	Zea Mays.
P.	arundinacea *Hedw*.....	Phragmites communis.
P.	Graminis *Pers*.....	Grasses and cereals.
P.	coronata *Cd*.....	Avena sativa.
P.	linearis *Pk*.....	Grasses.

In *Gymnosporangium* and *Podisoma* the spores are pedicellate and uniseptate as in Puccinia, but their color is a yellowish-orange when moist, and the mass is then much swollen and tremelloid or gelatinous. The species of Podisoma form those globose excrescences on the Juniper that are known as "*Cedar apples.*"

Gymnosporangium Juniperi *Lk*.....	Juniperus Virginiana.
G. clavipes *C. & P*	" "
Podisoma macropus *Schw*.....	" "
P. fuscum *Duby*	" "

The species of *Uromyces* resemble those of Puccinia in every respect, except that the spores are simple.

Uromyces triquetrus *Ck*.....	Hypericum perforatum. H. mutilum. Elodes Virginica.
U. Claytoniæ *C. & P*	Claytonia Caroliniana.
U. appendiculosus *Lev*.....	Pisum sativum.
U. apiculosus *Lev*	Trifolium repens.
U. Phaseoli *Strauss*	Phaseolus diversifolius.
U. Lespedezæ *Schw*	Lespedeza leaves.
U. solidus *B. & C*.....	Desmodium leaves.
U. Limonii *Lev*.....	Statice Limonium.
U. Polygoni *Fckl*.....	Polygonum erectum.
U. Euphorbiæ *C. & P*	Euphorbia maculata. E. hypericifolia.
U. Peltandræ *Howe*	Peltandra Virginica. Ariscema triphyllum.
U. pyriformis *Ck*	Acorus Calamus.
U. Sparganii *C. & P*	Sparganium eurycarpum.
U. Howei *Pk*	Asclepias cornuti.
U. Lilii *Clinton*	Lilium Canadense.
U. Junci *Schw*	Juncus effusus.
U. Caricis *Pk*.....	Carex stricta.
U. Graminum *Ck*.....	Brizopyrum spicatum.
Pileolaria brevipes *B. & R*.....	Rhus Toxicodendron.
Ravenelia glandulæformis *B. & C*....	Tephrosia Virginiana.

In *Ustilago* the spores are simple, without permanent pedicels and more or less globose in form. They are black or blackish-brown and form dusty smutty masses, most often in the ovaries or floral organs. They thus destroy the seeds of the host plant and interfere with its propagation.

Ustilago utriculosa *Tul*	Polygonum Pennsylvanicum.
U. Candollei *Tul*	P. sagittatum.
U. Erythronii *Clinton*.....	Erythronium Americanum.
U. Junci *Schw*	Juncus tenuis.
U. Montagnei *Tul*	Rhynchospora alba.
U. Mont. v. major *Desm*.....	R. glomerata.
U. urceolorum *Tul*	Carex Pennsylvanica. C. umbellata.
U. Maydis *Cd*	Zea Mays.
U. longissima *Tul*	Glyceria aquatica.
U. neglecta *Niessl*	Setaria glauca.
U. Syntherismæ *Schw*.....	Cenchrus tribuloides.

Ustilago Carbo *Tul*	Triticum vulgare. Avena sativa.
Urocystis pompholygodes *Schl*	Hepatica acutiloba. Anemone Pennsylvanica.
U. occulta *Preuss*.....	Grass leaves.
Geminella foliicola *Schroet*.....	Carex Pennsylvanica.
Protomyces Menyanthis *DeB*.....	Menyanthes trifoliata.
P. Erythronii *Pk*.....	Erythronium Americanum.
Coleosporium ochraceum *Bon*.....	Agrimonia Eupatoria.

In *Melampsora* as in Phragmidium the earlier state was referred to the genus Lecythea. The mature Melampsora is seldom developed before the supporting leaf has fallen.

Melampsora salicina *Lev*.....	Willow leaves.
M. populina *Lev*.....	Poplar leaves.

Many of the species of *Trichobasis* are now known to be earlier forms of species of Puccinia. The following have not yet been traced to their later state.

Trichobasis Pyrolæ *Berk*	Pyrola rotundifolia. P. secunda.
T. Iridicola *Pk*	Iris versicolor.

In *Uredo* the spores are simple, usually globose and collected in yellow or orange-colored masses which are mostly small and dot-like. One species, *U. luminata*, is very detrimental to raspberry and blackberry plants.

Uredo Caryophyllacearum *Johnst*....	Caryophyllaceæ.
U. luminata *Schw*	Rubus villosus. R. Canadensis. R. occidentalis. R. strigosus.
U. effusa *Strauss*.....	Rose leaves.
U. Solidaginis *Schw*.....	Solidago and Aster leaves.
U. pustulata *Pers*	Epilobium hirsutum. E. angustifolium.
U. Vacciniorum *Pers*.....	Vaccinium corymbosum.
U. Azaleæ *Schw*	Azalea nudiflora.
U. Ledicola *Pk*.....	Ledum latifolium.
U. Empetri *DC*.....	Empetrum nigrum.
U. Smilacis *Schw*	Lilium Canadense.
U. Filicum *Desm*	Cystopteris fragilis.
U. Aspidiotus *Pk*	Phegopteris Dryopteris.
U. Peckii *Thum*	Amphicarpæ monoica.

In *Cystopus* the spores are white, hence these fungi are sometimes called white rusts.

Cystopus candidus *Lev*	Capsella Bursa-pastoris. Sisymbrium officinale. Lepidium Virginicum. Dentaria diphylla etc.
C. cubicus *Str*	Tragopogon porrifolius.
C. Portulacæ *DC*	Portulaca oleracea.
C. spinulosus *DeB*	Cirsium arvense.
C. Bliti *Biv*	Amarantus retroflexus.

The Æcidiacei or Cluster-cup fungi consist essentially of small cup-shaped or cylindrical receptacles which contain the mostly yellow or orange-colored simple spores. These cups are sometimes scattered over the leaves but they are more frequently clustered together on discolored spots.

In *Roestelia* they are lacerated and the spores brownish, except in R. aurantiaca in which they are orange.

In *Æcidium* the cups are scolloped or toothed on the margin.

In *Peridermium* they rupture irregularly and occur only on Coniferæ.

Roestelia lacerata *Sow*	Amelanchier Canadensis. Cratægus (various species).
R. cornuta *Tul*	Amelanchier Canadensis. Pyrus Americana.
R. aurantiaca *Pk*	Amelanchier Canadensis. Cratægus (various species).
Æcidium clematitatum *Schw*	Clematis Virginiana.
Æ. quadrifidum *DC*	Anemone nemorosa.
Æ. Ranunculi *Schw*	Ranunculus abortivus.
Æ. Ranunculacearum *DC*	Ranunculaceæ.
Æ. Thalictri *Grev*	"
Æ. Calthæ *Grev*	Caltha palustris.
Æ. Berberidis *Pers*	Berberis vulgaris.
Æ. podophyllatum *Schw*	Podophyllum peltatum.
Æ. Violæ *Schum*	Viola pubescens.
Æ. Mariæ-Wilsoni *Pk*	V. cucullata.
Æ. hypericatum *Schw*	Hypericum mutilum.
Æ. claytoniatum *Schw*	Claytonia Caroliniana.
Æ. Geranii *DC*	Geranium maculatum.
Æ. impatientatum *Schw*	Impatiens pallida.
Æ. crassum *Pers*	Rhamnus catharticus.
Æ. Orobi *DC*	Tritolium repens.
Æ. album *Clinton*	Vicia Americana.
Æ. Grossulariæ *DC*	Ribes leaves.
Æ. Epilobii *DC*	Œnothera biennis.
Æ. Œnotheræ *Pk*	" "

Æcidium Neseæ *Ger*	.....	Nesæa verticillata.
Æ. Osmorrhizæ *Pk*	.....	Osmorrhiza brevistylis.
Æ. sambuciatum *Schw*	.....	Sambucus Canadensis.
Æ. houstoniatum *Schw*	.....	Houstonia longifolia. H. cærulea.
Æ. Compositarum *Mart*	.....	Compositæ.
Æ. asteratum *Schw*	.....	Aster cordifolius.
Æ. erigerontatum *Schw*	.....	Erigeron annuum. E. bellidifolium.
Æ. tracheliifoliatum *Schw*	... ...	Helianthus divaricatus.
Æ. gnaphaliatum *Schw*	.....	Gnaphalium polycephalum.
Æ. tenue *Schw*	.....	Eupatorium ageratoides.
Æ. statices *Desm*	.....	Statice Limonium.
Æ. lysimachiatum *Lk*	.....	Lysimachia quadrifolia.
Æ. Chelonis *Ger*	.....	Chelone glabra.
Æ. penstemoniatum *Schw*	.....	Penstemon pubescens.
Æ. Gerardiæ *Pk*	.....	Gerardia quercifolia.
Æ. Menthæ *DC*	.....	Labiatæ.
Æ. Lycopi *Ger*	.....	Lycopus Europæus.
Æ. Hydrophylli *Pk*	.....	Hydrophyllum Canadense.
Æ. dubium *Clinton*	.....	Calystegia Sepium.
Æ. Fraxini *Schw*	.....	Fraxinus Americana.
Æ. Allenii *Clinton*	.....	Shepherdia Canadensis.
Æ. pustulatum *Curt*	.....	Comandra umbellata.
Æ. hydnoideum *B. & C*	.....	Dirca palustris.
Æ. Euphorbiæ *Pers*	.....	Euphorbia hypericifolia.
Æ. Urticæ *DC*	.....	Urtica dioica.
Æ. Convallariæ *Schum*	.....	Lilium Canadense.
Æ. myricatum *Schw*	.....	Myrica cerifera.
Æ. dracontiatum *Schw*	.....	Arissema Dracontium. A. triphyllum.
Æ. aroidatum *Schw*	.....	Peltandra Virginica.
Æ. Iridis *Ger*	.....	Iris versicolor.
Æ. macrosporum *Pk*	.....	Smilax rotundifolia.
Æ. uvulariatum *Schw*	.....	Uvularia sessilifolia.
Peridermium Cerebrum *Pk*	.....	Pinus rigida.
P. columnare *A. & S*	.....	Abies Canadensis.
P. elatinum *A. & S*	.....	A. balsamea.
P. balsameum *Pk*	.....	A. "
P. decolorans *Pk*	.....	A. nigra.
Graphiola Phœnicis *Poit*	.....	Phœnix dissectifolia.

The remaining Coniomycetes that inhabit living plants belong chiefly to the genus *Septoria*. Most of these occur on dry or discolored spots on the leaves.

Phoma Mariæ *Clinton*	.....	Lonicera flava.
Sphæropsis Wilsoni *Clinton*	.....	L. "
Hendersonia Peckii *Clinton*	.....	L. "
H. Mariæ *Clinton*	.....	L. "

Melasmia alnea *Lev*	Alnus serrulata.
Asteroma Rosæ *DC*	Rose leaves.
Septoria Coptidis *B. & C*	Coptis trifolia.
S. Rhoidis *B. & C*	Rhus typhina.
S. Toxicodendri *Curt*	R. Toxicodendron.
S. ampelina *B. & C*	Vitis æstivalis.
S. destruens *Desm*	Malva rotundifolia.
S. sanguinea *Desm*	Prunus serotina.
S. cerasina *Pk*	P. "
S. Hippocastani *B. & Br*	Æsculus Hippocastanum.
S. acerina *Pk*	Acer Pennsylvanica.
S. Polygalæ *P. & C*	Polygala paucifolia.
S. emaculata *P. & C*	Lathyrus palustris.
S. Rubi *B. & C*	Rubus Canadensis.
S. Œnotheræ *B. & C*	Œnothera biennis.
S. maculosa *Ger*	Cuphea viscosissima.
S. sambucina *Pk*	Sambucus pubens.
S. Erigerontis *Pk*	Erigeron annuum.
S. Nabali *B. & C*	Nabalus albus.
S. Lobeliæ *Pk*	Lobelia spicata.
S. difformis *C. & P*	Vaccinium Pennsylvanicum.
S. Kalmicola *Schw*	Kalmia latifolia.
S. Verbenæ *D. & R*	Verbena hastata.
S. Verbascicola *B. & C*	Verbascum Blattaria.
S. Scrophulariæ *Pk*	Scrophularia nodosa.
S. Wileoni *Clinton*	Chelone glabra.
S. Polygonorum *Desm*	Polygonum Persicaria.
S. Ulmi *Kze*	Ulmus Americana.
S. ochroleuca *B. & C*	Castanea vesca.
S. viride tingens *Curt*	Allium tricoccum.
S. mirabilis *Pk*	Onoclea sensibilis.
Vermicularia concentrica *P. & C*	Trillium erythrocarpum. Viola rotundifolia.
Pestalozzia Guepini *Desm*	Camellia Japonica.
P. Mariæ *Clinton*	Rhododendron maximum.
Coryneum triseptatum *Pk*	R. maximum.

The fourth family, the HYPHOMYCETES, molds or filamentous fungi, contains comparatively few noxious species but among these few are some of the most pernicious foes of our cultivated plants. In the genus *Peronospora* we find such baneful pests as the potato mold, spinach mold, lettuce mold and onion mold. *Oidium monilioides* Lk. which occurs on grass leaves and *Oidium leucoconium* Desm. which attacks rose leaves are regarded as conditions respectively of *Erysiphe graminis* and *Sphærotheca pannosa*, the second form of which has not yet been detected with us.

Cercospora Callæ *P. & C.*.	Calla palustris.
Peronospora pygmæa *Ung*	Anemone Pennsylvanica.
P. parasitica *Pers*	Cardamine rhomboidea.
P. Geranii *Pk*	Geranium maculatum.
P. obliqua *Ck*	Rumex crispus.
P. effusa *Grev*	Chenopodium album.
Ramularia Nemopanthis *C. & P*....	Nemopanthes Canadensis.

In the last family, the ASCOMYCETES, we find a few groups, such as the Perisporiacei or mildews and the species of Rhytisma, inhabiting, for the most part, living leaves. But by far the greater part of this vast family find their dwelling-place on decaying substances.

In the *Perisporiacei* a white webby film usually appears on the leaf, and sometimes, as in the pea mildew, this involves the whole plant.

Sphærotheca Castagnei *Lev*.....	Spiræa opulifolia.
	Potentium Canadense.
	Agrimonia Eupatoria.
	Geum album.
	Bidens connata.
	Erechtithes hieracifolia.
	Taraxacum Dens-leonis.
	Brunella vulgaris.
S. pruinosa *C. & P*	Rhus glabra.
Phyllactinia guttata *Lev*	Magnolia acuminata.
	Liriodendron Tulipifera.
	Ribes Cynosbati.
	Celastrus scandens.
	Cornus florida.
	C. paniculata.
	C. stolonifera.
	C. circinata.
	Cratægus coccinea.
	C. Crus-galli.
	Corylus Americana.
	Castanea vesca.
	Fagus ferruginea.
	Carpinus Americana.
	Fraxinus Americana.
	Alnus serrulata.
	Asclepias Cornuti.
Uncinula adunca *Lev*	Salix cordata.
	S. discolor.
	Populus balsamifera.
U. circinata *C. & P*	Acer spicatum.
	A. rubrum.
	A. Pennsylvanicum.
U. luculenta *Howe*	Populus heterophylla.

Uncinula macrospora *Pk*		Ulmus Americana.
U.	flexuosa *Pk*	Æsculus Hippocastanum.
U.	Ampelopsidis *Pk*	Ampelopsis quinquefolia.
U.	Clintonii *Pk*	Tilia Americana.
U.	spiralis *B. & C*	Vitis æstivalis.
U.	geniculata *Ger*	Morus rubra.
U.	parvula *C. & P*	Celtis occidentalis.
Podosphæra Kunzei *Lev*		Prunus Cerasus. P. Virginiana. Spiræa tomentosa. S. salicifolia. Cratægus coccinea.
P.	biuncinata *C. & P*	Hamamelis Virginiana.
Microsphæra Menispermi *Howe*		Menispermum Canadense.
M.	Russellii *Clinton*	Oxalis stricta.
M.	diffusa *C. & P*	Desmodium Canadense.
M.	holosericea *Lev*	Astragalus Cooperi.
M.	pulchra *C. & P*	Cornus alternifolia.
M.	Dubyi *Lev*	Lonicera parviflora.
M.	Symphoricarpi *Howe*	Symphoricarpus racemosus.
M.	Van Bruntiana *Ger*	Sambucus Canadensis.
M.	Viburni *Schw*	Viburnum Lentago. V. dentatum.
M.	Friesii *Lev*	Syringa vulgaris.
M.	Fr. v. Castaneæ *C. & P*	Castanea vesca.
M.	Fr. v. Vaccinii *C. & P*	Vaccinium corymbosum.
M.	Vaccinii *Pk*	V. vacillans.
M.	Platani *Howe*	Platanus occidentalis.
M.	extensa *C. & P*	Quercus rubra. Q. alba.
M.	abbreviata *Pk*	Q. bicolor.
M.	pencillata *Lev*	Fagus ferruginea. Corylus rostrata.
M.	Alni *Tul*	Alnus serrulata. A. incana.
M.	densissima *Schw*	Quercus tinctoria.

The last species I have seen on dead leaves only, but it probably attacks them when living.

Erysiphe communis *Schl*		Ranunculus acris. R. abortivus. Thalictrum Cornuti. T. anemonoides.
E.	Martii *Lk*	Pisum sativum. Amphicarpæa monoica. Baptisia tinctoria. Lupinus perennis.
E.	Euphorbiæ *Pk*	Euphorbia hypericifolia.

Erysiphe lamprocarpa *Lev*.....	Artemisia trifida. Inula Helenium. Aster (various species). Solidago (various species). Phlox paniculata. Verbena hastata. Chelone glabra. Stachys aspera. Galeopsis tetrahit. Hydrophyllum Canadense. Scutellaria lateriflora.

The species of *Rhytisma*, and of *Dothidea* in part, form black blotches or protuberances on the leaves. Frequently they do not perfect their fruit till after the leaf has fallen. *R. Solidaginis* Schw. and *R. Asteris* Schw. are only insect galls, and of *R. Monogramma* B. & C., I have seen no good specimens.

Peziza Dehnii *Rabh*.....	Potentilla argentea.
Epichloe typhina *Berk*	Carex stems.
Rhytisma acerinum *Fr*	Acer saccharinum.
	A. rubrum.
R. punctatum *Fr*	A. spicatum.
	A. Pennsylvanicum.
R. Blakei *Curt*	Rubus hispidus.
R. Andromedæ *Fr*	Andromeda polifolia.
R. decolorans *Schw*.....	A. ligustrina.
R. Prini *Schw*	Prinus verticillatus.
R. Canadensis *Schw*.....	Nemopanthes Canadensis.
R. salicinum *Fr*	Salix discolor.
	S. humilis.
	S. Cutleri.
Hypoderma lineare *Pk*.....	Pinus Strobus.
Dothidea Ulmi *Fr*	Ulmus Americana.
D. Lespedezæ *Schw*	Lespedeza capitata.
D. Trifolii *Fr*	Trifolium repens.
D. Dalibardæ *Pk*	Dalibarda repens.
D. Graminis *Fr*	Grass leaves.
D. vorax *B. & C*	" "
D. Pteridis *Fr*	Pteris aquilina.
Melogramma superficialis *P. & C*	Pyrus Americana.
Diatrype anomala *Pk*.....	Corylus stems.
Sphæria morbosa *Schw*.....	Prunus Pennsylvanica.
	P. Virginiana.
	P. Cerasus.
	P. domestica.
S. Collinsii *Schw*.....	Amelanchier Canadensis.
S. fimbriata *Pers*	Carpinus Americana.
S. Coryli *Batsch*.....	Corylus leaves.

Venturia pulchella *C. & P*	Cassandra calyculata.
V. compacta *Pk*	Vaccinium macrocarpum.
V. Kalmiæ *Pk*	Kalmia glauca.
Stigmatea Robertiani *Fr*	Geranium Robertianum.

In closing this report, grateful acknowledgments are rendered to those botanists whose names appear in the preceding pages, for their kind aid and coöperation in the investigation of our flora, and for their generous contributions of specimens. When no name is added to the station or stations herein given, the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January* 11, 1876.

EXPLANATION OF PLATES.

EXPLANATION OF PLATE I.

Agaricus pubescentipes Peck.

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Fig. 1. A small plant.
Fig. 2. A plant of medium size, showing the lamellæ.
Fig. 3. Four spores × 400.

Chondrioderma Michelii Lib.

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Fig. 4. Four plants attached to a piece of grass leaf.
Fig. 5. Two plants enlarged, one showing the upper, the other the under surface of the flattened peridium.
Fig. 6. Four spores × 400.

Melanconium pallidum Peck.

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Fig. 7. Piece of a branch bearing the fungus; the epidermis removed from one end.
Fig. 8. Six spores × 400.

Clasterisporium uncinatum Clinton.

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Fig. 9. Piece of a leaf bearing the fungus.
Fig. 10. Three spores × 400.

Ustilago Montagnei Tul. var. *major Desm.*

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Fig. 11. Upper part of a plant, with the heads affected by the fungus.
Fig. 12. Five spores × 400.

Peziza imperialis Peck.

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Fig. 13. A small plant.
Fig. 14. A larger plant.
Fig. 15. A paraphysis and an ascus containing spores × 400.

Geoglossum velutipes Peck.

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Fig. 16. Two plants of ordinary size.
Fig. 17. A single hair × 400.
Fig. 18. Two paraphyses and an ascus containing spores × 400.
Fig. 19. Three spores × 400.

Geoglossum nigritum Pers.

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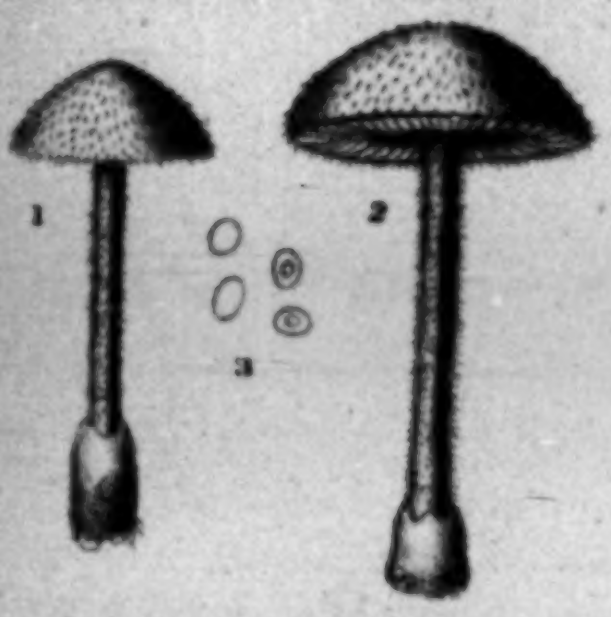
Fig. 20. Two plants of ordinary size.
Fig. 21. Two paraphyses and an ascus containing spores × 400
Fig. 22. Two spores × 400.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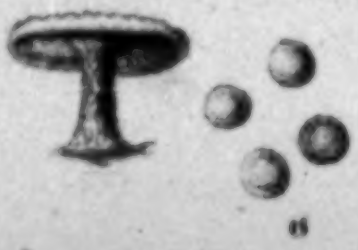
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Luther West Engravers & Co. Albany N.Y.

EXPLANATION OF PLATE II.

Hygrophorus speciosus Peck.

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Fig. 1. A small plant, with the pileus not fully expanded.
Fig. 2. A plant of ordinary size, with the pileus expanded.
Fig. 3. Vertical section of a pileus.
Fig. 4. Transverse section of a stem.
Fig. 5. Four spores × 400.

Peckia Clintonii Peck.

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Fig. 6. A leaf bearing the fungus.
Fig. 7. A perithecium and fragment of leaf enlarged.
Fig. 8. Three strings of spores × 400.
Fig. 9. Six spores × 400.

Peziza bronca Peck.

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Fig. 10. A plant of ordinary size.
Fig. 11. A paraphysis and an ascus containing spores × 400.
Fig. 12. Three spores × 400.

Lycoperdon constellatum Fr.

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Fig. 13. A small plant; part of the spines removed, to show the reticulated surface.
Fig. 14. Five spores × 400.

Sphærella colorata Peck.

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Fig. 15. A leaf bearing the fungus.
Fig. 16. Two asci containing spores × 400.
Fig. 17. Four spores × 400.

Helminthosporium episphæricum Cooke & Peck.

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Fig. 18. Piece of a branch bearing the fungus.
Fig. 19. Two flocci × 400.
Fig. 20. Two spores × 400.

Valsa cinctula Cooke & Peck.

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Fig. 21. Piece of a branch bearing the fungus.
Fig. 22. A single pustule enlarged.
Fig. 23. An ascus containing spores × 400.
Fig. 24. Four spores × 400.

Puccinia Physostegiæ Peck & Clinton.

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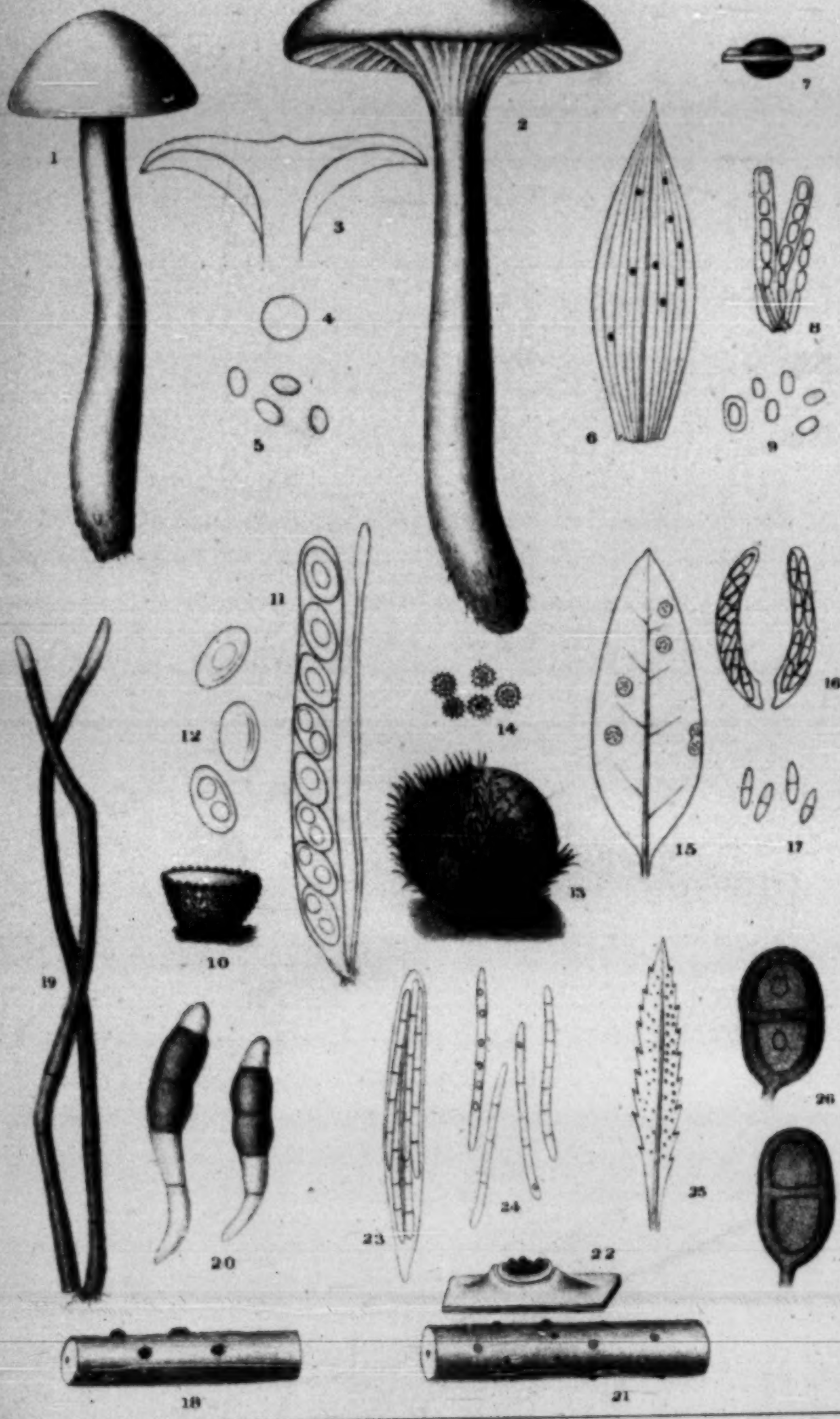
Fig. 25. A leaf bearing the fungus.
Fig. 26. Two spores × 400.



Lith. of Weed, Parsons & Co. Albany, N.Y.

1876

REPORT OF THE BOTANIST.

S. B. WOOLWORTH, LL. D., *Secretary of the Board of Regents of the University:*

SIR.—Since the date of my last report, specimens of one hundred and sixty-five species of plants have been mounted and placed in the Herbarium, of which one hundred and thirty were not before represented therein. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Essex, Greene, Hamilton, Otsego, Rensselaer and Saratoga. These represent *one hundred and thirty-two* species new to the Herbarium, one hundred and twenty-nine of which are fungi. Of these, sixty-nine are regarded as new or previously undescribed species. A list of plants collected is marked (2).

Specimens of thirty-six New York species, new to the Herbarium and not among my collections of the past season, have been furnished by correspondents. These added to those collected make the whole number of additions *one hundred and sixty-eight*. There are besides a considerable number of extralimital contributions. A list of the contributors and their contributions is marked (3).

New species with their descriptions and previously unreported species are given in a section marked (4). New stations of rare plants, remarks and observations are given in a section marked (5).

While on a collecting trip in the Adirondack region, in July and August, my attention was repeatedly arrested by the extensive ravages of the spruce-destroying beetle, *Hylurgus rufipennis* Kirby, of which a partial account was given in the twenty-eighth report. The green slopes of Mt. Emmons, commonly called Blue Mountain, and of several mountains to the north of it had their beauty, and their value too, greatly impaired by the abundant intermixture of the brown tops of dead spruces. The destruction was also visible along the road between Newcomb and Long Lake, and on the mountain slopes

far to the north of this road. Again, on the trail from Adirondack to Calamity Pond, there was sad evidence that the little destroyer had invaded also the forests of Essex county. From what I have seen at Lake Pleasant, in the southern part, and in the vicinity of Long Lake, in the northern part, and from information concerning the Cedar river region, in the central part of Hamilton county, there is reason to believe that much of the spruce timber of this county has already been invaded by the beetle. How much farther this destructive work has extended, or will extend, it is impossible to say. But one thing is certain, it is still in progress.

For the purpose of gaining more knowledge of the insect, I cut down, at South Pond, a tree that had recently been attacked by it. It was about twenty inches in diameter at the base; the foliage was still fresh and green, and there was nothing, except the perforations in the bark, to indicate that it was at all affected. The bark peeled from the trunk without much difficulty, the sap wood was perfectly sound, and the heart wood also, except a small portion in which there was a slight appearance of incipient decay. Longitudinal furrows, varying from one to six inches in length, were found under the bark, and each furrow was occupied by one or two beetles. The furrows are excavated from below upwards. In the short ones but one beetle was found, and but one perforation communicating with the external air. In the longer ones two beetles (probably the two sexes), were usually found, and from two to four perforations afforded means of ingress and egress. The lowest perforation, which is the one by which the beetle first enters and commences its furrow, is often found closed or "blocked up" by the dust and debris thrown down by the excavator in the progress of the work. The second perforation is generally one or two inches above the first. I failed to discover whether it is made by the second beetle for the purpose of ingress or by the first beetle. The third and fourth perforations are in a nearly direct line above the other two and are probably made from within outwardly, but for what purpose is uncertain. In one instance the two beetles were found at work making these perforations, boring through from the inner surface of the bark. In one instance the third was less than half an inch above the second, so that there would seem to be no particular necessity for it.

The eggs of the insect are deposited along both sides of the upper part of the furrow. They lie close together, almost or quite in contact with each other. When the larvæ emerge from the eggs they begin to feed upon the soft cambium and to work their way under the bark at right angles to the main furrow. They are, at first, so minute and work so close together that they make no distinct furrows but seem rather to devour entirely a very thin layer of the cambium. But as they increase in size they begin gradually to form distinct furrows and to take directions more divergent from each other and from their original course. In this way colonies from contiguous furrows at length run together and in time the whole trunk is surrounded by their multitudinous pathways, and the death of the tree is accomplished. Great care is taken by the parent beetles to keep *their* furrows separate. No instance was observed in which they ran together. In one instance the course of a furrow was changed to avoid running into the lateral furrows of a colony of larvæ just above. No furrows were found in the tree more than ten or twelve feet from its base, thus indicating that the attacks are made upon the lower part of the trunk. The attacks are not made simultaneously. Some of the furrows in this tree were scarcely more than an inch long, and evidently had been just commenced. Others were fully excavated and contained eggs, and in others still the larvæ had hatched and commenced their work, but in none were they fully grown. In another tree, a few rods distant from the first, the attack had evidently been made earlier in the season, for the larvæ were farther advanced in size and the bark, on one side of the tree was well loosened, though, strange to say, the other side of the trunk was comparatively unharmed. I was unable to discover why, in this instance, the attack was limited to one side of the trunk. It is pretty evident, therefore, that the trees are attacked all along during the months of June and July and possibly as late as August. I suspect, also, that the parent beetle, after having established a colony in one place may emerge from her furrow to repeat the operation in another place, either in the same trunk or in a different one, but this I was not able to ascertain definitely.

A whitish fungus, *Polyporus volvatus* Pk., scarcely larger than a hickory nut, occurs in considerable abundance on the

trunks of spruces killed by this beetle. The mycelium of the fungus grows beneath the bark, and the external plant is connected with it through the perforations made by the insect. Hence this fungus becomes a conspicuous indicator of the track of the beetle and tells the tale of its destructive power.

(1.)

PLANTS MOUNTED.

Not new to the Herbarium.

Nuphar Kalmiana *Pursh.*
Xanthoxylum Americanum
Ceanothus Americanus *L.*
Melilotus officinalis *Willd.*
M. alba *Lam.*
Desmodium acuminatum *DC.*
Aster puniceus *L.*
Solidago gigantea *Ait.*
Taraxacum Dens-leonis *Desf.*
Azalea viscosa *L.*
Nemopanthes Canadensis *DC.*
Allium vineale *L.*
Scirpus maritimus *L.*
Oryzopsis Canadensis *Torr.*
Agrostis scabra *Willd.*
Agaricus cæsareus *Scop.*
A. granulosus *Batsch.*
A. mollis *Schæff.*
A. vulgaris *Pers.*
A. Orcella *Bull.*
Cantharellus cinnabarinus
Merulius bellus *B. & C.*
Tremellodon gelatinosum *Pers.*
Thelephora caryophyllea *Fr.*
Clavaria Botrytis *Pers.*
Solenia ochracea *Hoffm.*
Tremella Fungicola *Pk.*
Lycoperdon pusillum *Fr.*
Phoma Verbascicola *Schw.*
Nemaspora Russellii *B. & C.*
Melanconium bicolor *Nees.*
Cladosporium Herbarum *Lk.*
Helotium rugipes *Pk.*
Diatrype prominens *Howe.*
Valsa nivea *Fr.*

New to the Herbarium.

Omphalaria pulvinata *Nyl.*
Agaricus Peckii *Howe.*
A. transmutans *Pk.*
A. sapidus *Kalchb.*
A. tremulus *Schæff.*
A. abundans *Pk.*
A. citrinellus *Pers.*
A. Stylobates *Pers.*
A. pubescentipes *Pk.*
A. pruinatipes *Pk.*
A. teneroides *Pk.*
A. placomyces *Pk.*
A. squalidellus *Pk.*
A. elongatipes *Pk.*
A. atomatoides *Pk.*
A. incertus *Pk.*
Coprinus pulchrifolius *Pk.*
C. plumbeus *Pk.*
Cortinarius splendidus *Pk.*
C. sphagnophilus *Pk.*
C. robustus *Pk.*
Gomphidius rhodoxanthus

Hygrophorus speciosus *Pk.*
Lactarius subpurpureus *Pk.*
L. parvus *Pk.*
Marasmius spongiosus *B & C.*
Boletus badius *Fr.*
B. parasiticus *Bull.*
B. Russellii *Frost.*
B. Peckii *Frost.*
B. nigrellus *Pk.*
B. Ravenelii *B. & C.*
B. griseus *Frost.*
Corticium sulphureum *Fr.*
Exobasidium Cassandræ *Pk.*
Lycoperdon constellatum *Fr.*
L. coloratum *Pk.*
Chondrioderma Michelii *Lib.*
Lamproderma physaroides
Phoma nebulosum *Berk.*
Cryptosporium Caricis *Cd.*
C. Noveboracense *B. & C.*
Melasmia alnea *Lev.*
Peckia Clintonii *Pk.*
P. Sarraceniæ *P. & C.*
Vermicularia concentrica
Excipula leucotricha *Pk.*
Septoria cerasina *Pk.*
S. Polygalæ *P. & C.*
S. emaculata *P. & C.*
S. difformis *C. & P.*
S. Ulmi *Kze.*
Discella Kalmiæ *Pk.*
D. Platani *Pk.*
D. macrosperma *Pk.*
Melanconium pallidum *Pk.*
Sporidesmium concinnum
Clasterisporium uncinatum
Puccinia Calthæ *Lk.*
P. Gentianæ *Strauss.*
P. Physostegiæ *P. & C.*
Uromyces Claytoniæ *C. & P.*
Ustilago Candollei *Tul.*
Graphiola Phœnicis *Poir.*
Stilbum vulgare *Tode.*
S. smaragdinum *A. & S.*
Epicoccum neglectum *Desm.*
Ægerita candida *Pers.*
Periconia truncata *C. & P.*
P. corticalis *C. & P.*
Cercospora Callæ *P. & C.*
Helminthosporium oösporum
H. episphæricum *C. & P.*
Polyactis pulvinata *B. & C.*
Ramularia Nemopanthis
Stysanus Stemonitis *Cd.*
Dactylium roseum *Berk.*
Fusisporium phyllogenum
F. parasiticum *Pk.*
Chætomium funicolum *Ck.*
Uncinula geniculata *Ger.*
Peziza imperialis *Pk.*
P. griseo-rosea *Ger.*
P. bronca *Pk.*
P. longipes *C. & P.*
P. Pinastri *C. & P.*
P. agrostina *Pk.*
P. Thalictri *Pk.*
P. virginella *Ck.*
P. subtilissima *Ck.*
Helotium hydrogenum *Pk.*
Ascobolus ciliatus *Schw.*
A. furfuraceus *Pers.*
Stictis versicolor *Fr.*
S. filicina *Pk.*
Tympanis gyrosa *B. & C.*
Hypocrea Patella *C. & P.*
H. chromosperma *C. & P.*
H. apiculata *C. & P.*
Hypomyces transformans *Pk.*
Melogramma superficialis *Pk.*
Dothidea filicina *Fr.*
Diatrype Smilacicola *Schw.*
D. Cephalanthi *Schw.*

Valsa Linderæ *Pk.*
V. Fraxinicola *C. & P.*
V. cinctula *C. & P.*
V. tumidula *C. & P.*
V. trichispora *C. & P.*
V. leptasca *P. & C.*
Sphæria cæsariata *C. & P.*
S. exilis *A. & S.*
S. spermoides *Hoffm.*
S. salebrosa *C. & P.*
S. recessa *C. & P.*
S. obducens *Fr.*
Sphæria obtusissima *B. & C.*
S. interstitialis *C. & P.*
S. squalidula *C. & P.*
S. Fimeti *Pers.*
S. spiculosa *Pers.*
S. cænothina *Pk.*
S. melanassa *Pk.*
S. fulgida *C. & P.*
S. minutella *Pk.*
S. culmifraga *Desm.*
S. Collinsii *Schw.*
Sphærella colorata *Pk.*

(2.)

PLANTS COLLECTED.

Trifolium hybridum *L.*
Lonicera Tartarica *L.*
Crepis aurantiaca *L.*
Agaricus striatifolius *Pk.*
A. apertus *Pk.*
A. peltigerinus *Pk.*
A. flavidellus *Pk.*
A. striatulus *Fr.*
A. subareolatus *Pk.*
A. conigenoides *Ellis.*
A. delicatellus *Pk.*
A. odorifer *Pk.*
A. longistriatus *Pk.*
A. ophiopus *Pk.*
A. angustipes *Pk.*
A. indecens *Pk.*
A. contrarius *Pk.*
A. umbonatescens *Pk.*
A. lacrymabundus *Fr.*
A. Candolleanus *Fr.*
A. limophilus *Pk.*
A. arenulinus *Pk.*
A. polytrichophilus *Pk.*
A. graciloides *Pk.*
Cortinarius craticius *Fr.*
C. regularis *Pk.*
Marasmius præacutus *Ellis.*
Panus torulosus *Fr.*
Boletus viscosus *Frost.*
Polyporus osseus *Kalchbr.*
P. dualis *Pk.*
P. nidulans *Fr.*
P. fragans *Pk.*
P. albellus *Pk.*
P. connatus *Weinm.*
Hydnum Weinmanni *Fr.*
Irpex obliquus *Fr.*
I. fuscoviolaceus *Fr.*
I. sinuosus *Fr.*
Radulum orbiculare *Fr.*
Phlebia merismoides *Fr.*
Grandinia rudis *Pk.*
Thelephora speciosa *Fr.*
Hymenochæte spreta *Pk.*
H. agglutinans *Ellis.*
Corticium quercinum *Fr.*
C. lacteum *Fr.*
C. Sambuci *Fr.*

Corticium Martianum *B. & C.*
C. suffocatum *Pk.*
Cyphella griseopallida *Weinm.*
Clavaria typhuloides *Pk.*
Pistillaria coccinea *Cd.*
Tremella intumescens *Sow.*
Nematelia cerebriformis *Ellis.*
Dacrymyces minor *Pk.*
Bovista pila *B. & C.*
Amaurochæte atra *A. & S.*
Physarum luteolum *Pk.*
P. albicans *Pk.*
Diachæa splendens *Pk.*
Trichia fallax *Pers.*
Clathroptychium rugulosum
Nidularia pulvinata *Schw.*
Leptrostroma lineare *Pk.*
Sphæronema Robiniæ *B. & C.*
S. aurantiacum *Pk.*
Sphæropsis minima *B. & C.*
Acrospermum graminum *Lib.*
Excipula lanuginosa *Pk.*
Discella Canadensis *Pk.*
D. arida *Pk.*
Melanconium intermedium *Pk.*
Torula curvata *Pk.*
Melampsora Epilobii *Fckl.*
Uredo Cassandræ *P. & C.*
Puccinia orbicula *P. & C.*
Helminthosporium Absinthii
Cladosporium nodulosum *Cd.*
Ramularia brunnea *Pk.*
Cercospora Symplocarpi *Pk.*
C. leptosperma *Pk.*
C. Ampelopsidis *Pk.*
C. Chenopodii *Fckl.*
Peronospora alta *Fckl.*
P. infestans *De By.*
Dactylium sublutescens *Pk.*
Oidium albipes *Pk.*
O. fasciculatum *Berk.*
Capillaria Sphæriæ-typhinæ
Menispora ciliata *Cd.*
Fusisporium rimosum *Pk.*
Zygodesmus pannosus *B. & C.*
Z. rubiginosus *Pk.*
Morchella deliciosa *Fr.*
Peziza Warnei *Pk.*
P. deligata *Pk.*
P. myricacea *Pk.*
P. bicolor *Bull.*
P. sulphurella *Pk.*
P. distincta *Pk.*
P. capitata *Pk.*
P. chamæleontina *Pk.*
P. Polygoni *Rehm.*
Helotium caricinellum *Pk.*
H. bryogenum *Pk.*
Dermatea carpinus *Fr.*
D. inclusa *Pk.*
Stictis cylindricarpa *Pk.*
Ascobolus viridis *Curr.*
A. crenulatus *Karst.*
Tympanis turbinata *Schw.*
Glonium simulans *Ger.*
Hypoderma Desmazierii *Duby.*
Hypomyces ochraceus *Tul.*
Hypoxylon suborbiculare *Pk.*
Dothidea Caricis *Fr.*
D. Osmundæ *P. & C.*
D. episphæria *Pk.*
Diatrype ferruginea *Fr.*
Valsa Juglandicola *Schw.*
V. innumerabilis *Pk.*
Lophiostoma obtectum *Pk.*
Sphærella Vaccinii *Ck.*
S. Impatientis *P. & C.*
Sphæria exercitalis *Pk.*
S. sphærellula *Pk.*
S. Clasterium *B. & C.*
S. viridella *Pk.*
S. scapophila *Pk.*
Pyrenophora phæocomes *Fr.*

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

M. C. COOKE, London, England.

Leptostroma juncinum *Fr.*
L. filicinum *Fr.*
Leptothyrium Ribis *Lib.*
L. Fragariæ *Lib.*
L. Juglandis *Lib.*
Dinemasporium Herbarum *Ck.*
Aposphæria acuta *Berk.*
A. complanata *Berk.*
Septoria Ulmi *Kze.*
S. Convolvuli *Desm.*
S. Clematidis *Desm.*
S. Viburni *West.*
S. Gei *Desm.*
S. Hederæ *Desm.*
S. Oxyacanthæ *Kze.*
S. Castanæcola *Lasch.*
S. Astragali *Desm.*
S. Ficariæ *Duby.*
S. Hydrocotyles *Duby.*
S. Pyricola *Desm.*
S. Chelidonii *Desm.*
S. Œgopodii *Desm.*
Phyllosticta vulgaris *Desm.*
P. Atriplicis *Desm.*
Phoma Samarorum *Desm.*
Ceuthospora phacidioides *Grev.*
Asteroma Rosæ *DC.*
Xenodochus carbonarius *Sch.*
Aregma mucronatum *Fr.*
A. obtusatum *Fr.*
A. acuminatum *Fr.*
A. bulbosum *Fr.*
Triphragmium Ulmariæ *Lk.*
Puccinia Saniculæ *Grev.*
P. bullaria *Lk.*
P. Anemones *Pers.*
Puccinia Nolitangeris *Cd.*
P. Violarum *Lk.*
P. Lychnidearum *Lk.*
P. pulverulenta *Grev.*
P. Circææ *Grev.*
P. Prunorum *Lk.*
P. Polygonorum *Lk.*
P. Primula *Grev.*
P. Glechomatis *DC.*
P. Menthæ *Pers.*
P. Comp. v. Centaureæ *Schl.*
P. " serratulæ *Schl.*
P. Syngenesiarum *Lk.*
P. Umbelliferarum *Lk.*
P. Apii *Cd.*
P. Vincæ *Berk.*
P. Umbilici *Guep.*
P. Graminis *Pers.*
P. Veronicarum *DC.*
P. Mœhringii *Fckl.*
P. difformis *Kze.*
P. Scorodoniæ *Lk.*
P. Tanaceti *DC.*
P. Buxi *DC.*
Uromyces Iridis *Lev.*
U. Polygoni *Lev.*
U. intrusus *Lev.*
U. Ulmariæ *Lev.*
U. concentricus *Lev.*
Trichobasis Senecionis *Berk.*
T. Labiatarum *Lev.*
T. Cichoracearum *Lev.*
T. Hydrocotyles *Ck.*
T. Betæ *Lev.*
T. Fabæ *Lev.*
T. Galii *Lev.*

Trichobasis Parnassiæ *Ck.*
T. caricina *Berk.*
T. Petroselini *Berk.*
T. fallens *Ck.*
T. Rumicum *DC.*
T. Geranii *Berk.*
T. Umbellatarum *Lev.*
Tilletia caries *Tul.*
Urocystis pompholygodes *Lev.*
Ustilago segetum *Ditm.*
U. Salvei *Berk.*
U. longissima *Tul.*
U. utriculosa *Tul.*
Lecythea gyrosa *Lev.*
L. Euphorbiæ *Lev.*
L. Valerianæ *Lev.*
Uredo confluens *DC.*
U. Circææ *A. & S.*
U. pustulata *Pers.*
U. Caryophyllacearum
Coleosporium Sonchi *Lev.*
C. Tussilaginis *Lev.*
C. ochraceum *Bon.*
C. Rhinanthacearum.
Cystopus candidus *Lev.*
C. spinulosus *De By.*
Melampsora salicina *Lev.*
M. populina *Lev.*
M. Tremulæ *Tul.*
Roestelia cornuta *Tul.*
Æcidium crassum *Pers.*
Æ. Euphorbiæ *Pers.*
Æ. Epilobii *DC.*
Æ. leucospermum *DC.*
Æ. Grossulariæ *DC.*
Æ. Comp. v. Tussilaginis.
Æ. " Lampsanæ.
Æ. " Bellidis.
Æ. Saniculæ *Carm.*
Æ. Allii *Grev.*
Æ. Valerianacearum *Duby.*
Æ. rubellum *Pers.*
Æ. Berberidis *Pers.*
Æ. Periclymeni *DC.*
Æ. Ranunculacearum *DC.*
Æ. Tragopogonis *Pers.*
Peronospora infestans *De By.*
P. parasitica *Cd.*
Microsphæra comata *Lev.*
Erysiphe Linkii *Lev.*
E. tortilis *Lev.*

C. B. PLOWRIGHT, M. D., Lynn, England.

Agaricus muscarius *L.*
A. granulosus *Batsch.*
A. ustalis *Fr.*
A. cyathiformis *Bull.*
A. galericulatus *Scop.*
A. fascicularis *Huds.*
A. virginicus *Jacq.*
Cantharellus cibarius *Fr.*
Marasmius oreades *Fr.*
Panus stypticus *Fr.*
Polyporus perennis *Fr.*
P. squamosus *Fr.*
P. adustus *Fr.*
P. hirsutus *Fr.*
P. versicolor *Fr.*
Dædalea unicolor *Fr.*
D. quercina *Fr.*
Trametes Pini *Fr.*
T. suaveolens *Fr.*
Merulius lacrymans *Fr.*

Hydnum repandum *L.*
Fistulina hepatica *Fr.*
Craterellus flavescens.
Hymenochæte rubiginosa *Lev.*
Corticium quercinum *Fr.*
C. comedens *Fr.*
C. Sambuci *Fr.*
C. incarnatum *Fr.*
Clavaria flava *Pers.*
Scleroderma vulgare *Fr.*
Lycoperdon cælatum *Bull.*
Lycogala epidendrum *Fr.*
Spumaria alba *DC.*
Diderma vernicosum *Pers.*
Didymium farinaceum *Fr.*
Arcyria punicea *Pers.*
Cyathus striatus *Hoffm.*
C. Crucibulum *Pers.*
Sphærobolus stellatus *Tode.*
Leptostroma litigiosum *Desm.*
Cryptosporium Neesii *Cd.*
Phoma subordinarium *Desm.*
P. errabundum *Desm.*
P. complanatum *Desm.*
P. longissimum *Pers.*
P. Samarorum *Desm.*
Diplodia Ligustri *Awd.*
D. Fraxini *Fr.*
D. melæna *Lev.*
D. Coryli *Fckl.*
D. Syringæ *Awd.*
D. Mori *Awd.*
D. Juglandis *Fr.*
Hendersonia Rosæ *Awd.*
H. Rubi *Awd.*
H. Corni *Fckl.*
Vermicularia Dematium *Fr.*
Melasmia alnea *Lev.*
M. acerina *Lev.*
Piggotia astroidea *Berk.*
Septoria Hederæ *Desm.*
Septoria quercina *Desm.*
S. Aceris *B. & Br.*
S. Oxyacanthæ *Kze.*
S. Ulmi *Fr.*
S. Anemones *Fckl.*
S. Stellariæ *West.*
S. Astragali *Lasch.*
S. Castanæcola *Desm.*
S. Ficariæ *Desm.*
S. Fraxini *Desm.*
S. Ægopodii *Desm.*
S. Hepaticæ *Desm.*
S. Convolvuli *Desm.*
S. Tiliæ *Desm.*
S. Urticæ *Desm.*
Phyllosticta Cornicola *Rbh.*
P. Primulæcola *Desm.*
P. Symphoricarpi *West.*
Depazea populina *Fckl.*
D. Vincetoxici *Schub.*
D. Frondicola *Fr.*
D. Œnotheræ *Lasch.*
D. juglandina *Fr.*
D. cruenta *Fr.*
D. Æsculicola *Fr.*
Darluca filum *Cast.*
Ascochyta Polygoni *Rbh.*
A. Ebuli *Fckl.*
A. Rubi *Lasch.*
Asteroma Rosæ *DC.*
A. Ulmi *Kl.*
A. Hoffmani *Kze.*
Discella carbonacea *B. & Br.*
Stilbospora angustata *Pers.*
Stegonosporium cellulosum *Cd.*
Libertella betulina *Desm.*
Melanconium Juglandis *Kze.*
M. sphærospermum *Lk.*
M. bicolor *Nees.*
M. macrospermum *Tul.*
Coryneum pulvinatum *Kze.*

Coryneum disciforme *Kze.*
Bispora monilioides *Cd.*
Cytispora elegans *Ces.*
C. populina *Fr.*
Synchytrium Succisæ *De By.*
S. Anemones *Wor.*
Puccinia Tanaceti *DC.*
P. Hieracii *Mart.*
P. Prunorum *Lk.*
P. Menthæ *Pers.*
P. coronata *Cd.*
P. obtegens *Tul.*
P. Lampsanæ *Fckl.*
P. Bardanæ *Cd.*
P. Cirsii *Lasch.*
P. Luzulæ *Lib.*
P. Caricis *Fckl.*
P. Ægopodii *Lk.*
P. Glechomæ *DC.*
P. Compositarum *Schl.*
P. Syngenesiarum.
P. Malvacearum *Mont.*
P. Straminis *Fckl.*
P. Asparagi *DC.*
P. arundinacea *Hedw.*
P. Brachypodii *Fckl.*
P. Graminis *Pers.*
P. Amphibii *Fckl.*
Phragmidium Tormentillæ *Cd.*
P. apiculatum *Rbh.*
P. incrassatum *Lk.*
Uromyces Ficariæ *Lev.*
U. Polygoni *Fckl.*
U. Viciæ *Fckl.*
U. Trifolii *Fckl.*
U apiculatus *Lev.*
U. Betæ *Kuhn.*
U. scutellatus *Kl.*
Ustilago Carbo *Tul.*
U. longissima *Tul.*
U. hypodytes *Fr.*
Uredo Filicum *Desm.*
U. Vacciniorum *Pers.*
U. arundinacea *Rbh.*
Coleosporium Compositarum
C. Campanulacearum *Fr.*
C. Senecionis *Fr.*
C. ochraceum *Bon.*
Melampsora Lini *Desm.*
M. Tremulæ *Tul.*
M. Epilobii *Fckl.*
M. salicina *Lev.*
M. acerina *Lev.*
M. betulina *Tul.*
M. Euphorbiæ *Cast.*
Æcidium Violæ *Schum.*
Æ. Xylostei *Wallr.*
Æ. Compositarum *Mart.*
Æ. Berberidis *Pers.*
Æ. Convallariæ *Schum.*
Æ. Tussilaginis *Pers.*
Æ. Thesii *Desv.*
Æ. Ranunculacearum *DC.*
Æ. rubellum *Pers.*
Æ. elongatum *Lk.*
Æ. leucospermum *DC.*
Æ. Epilobii *DC.*
Æ. Urticæ *DC.*
Æ. Behenis *DC.*
Æ. Euphorbiæ *Pers.*
Rœstelia cornuta *Tul.*
Cystopus candidus *Lev.*
Ceratium hydnoides *A. & S.*
Cladosporium graminum *Lk.*
C. Fumago *Lk.*
Helminthosporium Tiliæ *Fr.*
H. arundinaceum *Cd.*
Oidium Tuckeri *Berk.*
O. fructigenum *Fr.*
Fusarium nerviseqnum *Fckl.*
Ramularia Urticæ *Ces.*
Peronospora nivea *Ung.*

Peronospora Alsinearum *DeBy*
P. grisea *De By.*
P. pygmæa *Ung.*
P. parasitica *Pers.*
P. gangliformis *Berk.*
Pilobolus crystallinus *Tode.*
Sphærotheca pannosa *Lev.*
S. Castagnei *Lev.*
Microsphæra Grossulariæ *Lev.*
M. holosericea *Lev.*
M. Berberidis *Lev.*
M. penicillata *Lev.*
Erysiphe Martii *Lev.*
E. Linkii *Lev.*
E. communis *Schl.*
Uncinula adunca *Lev.*
U. bicornis *Lev.*
U. Wallrothii *Lev.*
Podosphæra Kunzei *Lev.*
Phyllactinia guttata *Lev.*
Morchella esculenta *Pers.*
Leotia lubrica *Pers.*
Spathularia flavida *Pers.*
Peziza badia *Pers.*
P. aurantia *Fr.*
P. leporina *Batsch.*
P. cinerea *Batsch.*
P. Solani *Pers.*
P. atrata *Fr.*
P. fusca *Pers.*
P. fusarioides *Berk.*
Pseudopeziza Trifolii *Bernh.*
Helotium herbarum *Pers.*
Lachnella corticalis *Pers.*
Cenangium Cerasi *Fr.*
C. ferruginosum *Fr.*
Phacidium coronatum *Fr.*
P. minutissimum *Awd.*
P. Medicaginis *Lasch.*
Hysterium Pinastri *Fr.*
H. virgultorum *DC.*
Colpoma quercinum.
Dichæna strobilina *Fr.*
Rhytisma salicinum *Fr.*
R. acerinum *Fr.*
R. punctatum *Pers.*
Epichloe typhina *Berk.*
Nectria Peziza *Fr.*
N. pulicaris *Fr.*
N. ephisphæria *Fr.*
Xylaria Hypoxylon *Grev.*
X. polymorpha *Grev.*
Hypoxylon fuscum *Fr.*
Ustulina vulgaris *Tul.*
Eutypa flavovirens *Tul.*
Melogramma ferrugineum *Nke.*
Polystigma fulvum *DC.*
P. rubrum *DC.*
Dothidea Ulmi *Fr.*
D. Heraclei *Fckl.*
D. graminis *Pers.*
D. Junci *Fr.*
D. Ribesia *Fr.*
Diatrype stigma *Fr.*
D. favacea *Fr.*
D. disciformis *Fr.*
D. bullata *Fr.*
Valsa suffusa *Tul.*
V. salicina *Fr.*
V. nivea *Fr.*
V. stellulata *Fr.*
Cucurbitaria Spartii *De Not.*
C. Berberidis *Gr.*
C. Laburni *Fr.*
Massaria inquinans *Tode.*
M. pupula *Tul.*
Stegia Ilicis *Fr.*
Sphæria aquila *Fr.*
S. spermoides *Hoffm.*
S. pulvispyrius *Pers.*
S. coniformis *Fr.*
S. clara *Awd.*

Sphæria rubella *Pers.*
S. Herbarum *Pers.*
S. pilifera *Fr.*
S. obducens *Fr.*
S. Carduorum *Wallr.*
S. vulgaris *Ces.*
Isothea pustula *Berk.*
Sphærella ignobilis *Awd.*
Sphærella Cookeana *Awd.*
S. Populi *Awd.*
S. microspora *Awd.*
Venturia ditricha *Fr.*
Rophographus filicinus *Fckl.*
Exoascus Populi *Thum.*
Calyptospora Gœppertiana

Hon. G. W. CLINTON, Buffalo, N. Y.

Polyporus obducens *Fr.*
P. callosus *Fr.*
P. farinellus *Fr.*
Corticium Martianum *B. & C.*
C. cæruleum *Fr.*
Dacrymyces minor *Pk.*
Perichæna irregularis *B. & C.*
Phoma strobilinum *P. & C.*
P. stercorarium *P. & C.*
Sphæropsis Syringæ *P. & C.*
S. Pennsylvanica *B. & C.*
Sphæronema Robiniæ *B. & C.*
Diplodia thujina *P. & C.*
Melanconium intermedium
Septonema dichænoides *P. & C.*
Puccinia orbicula *P. & C.*
P. Hydrophylli *P. & C.*
Uredo Cassandræ *P. & C.*
Trichobasis Fabæ *Lev.*
Æcidium Saniculæ *Carm.*
Cladosporium depressum
Verticillium pulvereum *P. & C.*
Trichoderma viride *Pers.*
Oidium fasciculatum *Berk.*
Polyactis cana *Berk.*
Peziza vulpina *Ck.*
P. maculincola *Schw.*
P. macrospora *Fckl.*
Patellaria lignyota *Fr.*
Hysterium Rimincola *Schw.*
H. truncatulum *C. & P.*
Dothidea Osmundæ *P. & C.*
Valsa Juglandicola *Schw.*
Cucurbitaria Berberidis *Gr.*
Sphæria Clintonii *Pk.*
S. onosmodina *P. & C.*
S. Herbarum *Pers.*
Sphærella Impatientis *P. & C*

C. C. FROST, Brattleborough, Vt.

Marasmius erythropus *Fr.*
M. archyropus *Fr.*
Boletus viscosus *Frost.*
B. salmonicolor *Frost.*
Næmatelia nucleata *Fr.*
Endobotrya elegans *B. & C.*
Ceratium porioides *A. & S.*
Phymatospora leucosperma
Peziza Acetabulum *L.*
Patellaria lignyota *Fr.*
Sphæria scoriadea *Fr.*

E. S. MILLER, Wading River, N. Y.

Quercus obtusiloba *Mx.*
Q. monticola *Mx.*
Carya tomentosa *Nutt.*

H. A. WARNE, Oneida, N. Y.

Viola Selkirkii *Pursh.*
Agaricus naucinoides *Pk.*
A. personatus *Fr.*
A. æruginosus *Fr.*
Paxillus porosus *Berk.*
Polyporous medullapanis *Fr.*
Hydnum chrysodon *B. & C.*
Grandinia virescens *Pk.*
Stereum rugosum *Fr.*
Clavaria amethystina *Bull.*
Guepinia helvelloides *DC*
Erysiphe Liriodendri *Schw.*
Morchella bispora *Sor.*
M. semilibera *DC.*
M. deliciosa *Fr.*
Verpa digitaliformis *Pers.*
Peziza sulcata *Pers.*
P. Warnei *Pk.*
Ascobolus crenulatus *Karst.*
Patellaria leptosperma *Pk.*
Sphæria xestothele *B. & C.*
Discosia rugulosa *B. & C.*

W. R. GERARD, New York, N. Y.

Ostropa cinerea *Duby.*
Hysterium prælongum *Schw.*
H. curvatum *Fr.*
H. Rousselii *De Not.*
H. aquilinum *Schum.*
Hysterium parvulum *Ger.*
H. australe *Duby.*
H. ellipticum *DC.*
Hypoderma nervisequum *Fr.*
Glonium simulans *Ger.*

J. B. ELLIS, Newfield, N. J.

Corticium fumigatum *Thum.*
C. rubrocanum *Thum.*
Microthyrium Smilacis *Not.*
Phoma consors *C. & E.*
Sphæropsis Sumachi *Schw.*
Melanconium Ramulorum *Cd.*
Stilbum atrocephalum *Ellis.*
Septosporium velutinum *C. & E.*
Aspergillus pulvinatus *B. & C.*
Chætomium elatum *Kze.*
Peziza raphidospora *Ellis.*
P. macrospora *Fckl.*
P. lachnoderma *Berk.*
P. virginella *Ck.*
P. mycogena *Ellis.*
P. Kalmiæ *Pk.*
Dermatea carnea *C. & E.*
Dermatea tetraspora *Ellis.*
Stictis leucaspis *Ellis.*
Triblidium minor *Ck.*
Diatrype Hystrix *Tode.*
D. fibritecta *C. & E.*
D. collariata *C. & E.*
D. dryophila *Curr.*
Dothidea excavata *C. & E.*
Valsa rufescens *Schw.*
V. aculeans *Schw.*
V. Liquidamberis *Schw.*
V. albofusca *C. & E.*
Sphæria pachyascus *C. & E.*
S. viscosa *C. & E.*
S. Radicum *Schw.*
S. goniostoma *Schw.*

Prof. J. W. CHICKERING, Washington, D. C.

Pinus mitis *Mx.*
Pinus inops *Ait.*

W. M. CANBY, Wilmington, Del.

Pinus Tæda *L.*

F. W. HALL, New Haven, Ct.

Chenopodium leptophyllum *Nutt.*

C. DEVOL, M. D., Albany, N. Y.

Laurus nobilis *L.*

Specimens of wood of ..... { Rosa Indica. / Ulmus racemosa!

W. W. HILL, Albany, N. Y.

Specimens of wood of:

Rhus venenata *DC.*
R. typhina *L.*
R. glabra *L.*
Rhus radicans *L.*
Celastrus scandens *L.*

(4.)

SPECIES NOT BEFORE REPORTED.

TRIFOLIUM HYBRIDUM *L.*

Portage. *G. W. Clinton.* North Greenbush. Perhaps not yet fully established.

LONICERA TARTARICA *L.*

I find this shrub growing on the railroad bank, one mile south of Greenbush.

CREPIS AURANTIACA *L.*

Well established in fields and meadows. Sandlake. July.

AGARICUS (TRICHOLOMA) STRIATIFOLIUS *n. sp.*

Pileus dry, convex or expanded, nearly smooth, somewhat shining, often obscurely dotted or squamulose with innate fibrils, grayish or grayish-brown, sometimes tinged with red; lamellæ rather close, rounded behind, transversely striated or venose, white; stem slightly thickened at the base, hollow, white; spores subglobose or broadly elliptical, .00016′*–.0002′ long; odor decided and peculiar, flesh white.

Plant gregarious, 2′ high, pileus 2′–2.5′ broad, stem 3″–5″ thick.

* One accent signifies inch or inches; two accents signify line or lines.

Ground in woods. Mechanicsville. October.

The striated appearance of the lamellæ is due to the presence of small transverse vein-like elevations. The stem is almost chalky-white. The odor is quite perceptible and peculiar.

AGARICUS (CLITOCYBE) APERTUS *n. sp.*

Pileus convex, then expanded or centrally depressed, often irregular, whitish with a lilac tinge and often one or two darker zones, shining; lamellæ close, adnate or slightly decurrent, whitish, often with a faint pinkish tinge; stem short, equal or narrowed toward the base, solid, whitish; odor farinaceous, taste unpleasant.

Plant gregarious or cæspitose, 1′–2′ high, pileus about 1′ broad, stem 1″ thick.

Grassy ground in pastures and along highways. Maryland, Otsego county. September.

In the dried specimens the lamellæ often assume a pale cinnamon hue.

AGARICUS (CLITOCYBE) FLAVIDELLUS *n. sp.*

Pileus thin, convex, then expanded or centrally depressed, often irregular, hygrophanous, glabrous; lamellæ narrow, crowded, adnate or subdecurrent; stem equal, glabrous, hollow.

Plant gregarious, about 2′ high, pileus 1′ broad, stem 1.5″–2″ thick.

Wet swampy ground. Maryland. September.

The whole plant has a uniform dirty yellowish hue when fresh. The pileus becomes whitish in drying.

AGARICUS (CLITOCYBE) PELTIGERINUS *n. sp.*

Pileus nearly plane, smooth, umbilicate, hygrophanous, brown, striatulate on the margin when moist, whitish or pale-gray when dry; lamellæ rather distant, sometimes branched, venose-connected, decurrent, a little paler than the moist pileus; stem nearly equal, rather firm, solid, smooth, paler than the pileus, often with a minute white tomentum toward the base; spores elliptical, .0003′ long, with a slight apiculus at the base.

Plant 6″–10″ high, pileus 2″–5″ broad, stem less than 1″ thick.

On decaying Peltigera. Oneida. *H. A. Warne.* North Greenbush. May.

A small species remarkable for its peculiar habitat. Sometimes the stems of two or three plants are united at the base, thus manifesting a tendency to become cæspitose.

AGARICUS (COLLYBIA) CONIGENOIDES *Ellis.*

Buried pine cones. West Albany. October.

The pileus in our specimens is fuscous, being darker than in the type. It seems to be near *A. semihærens* B. & C., if not indeed the same species.

AGARICUS (COLLYBIA) DELICATELLUS *n. sp.*

Snowy-white throughout, smooth, subcæspitose; pileus convex or broadly campanulate, submembranaceous, slightly thicker on the disk; lamellæ narrow, close, emarginate; stem slender, equal, hollow, slightly white-villous at the base.

Plant 1′ high, pileus 2′–3′ broad, stem .5′ thick.

Among fallen leaves. North Greenbush. September.

From the character of the lamellæ it is evidently a Collybia but the substance is rather tender.

AGARICUS (MYCENA) ODORIFER *n. sp.*

Pileus thin, hemispherical, convex or expanded, smooth, white, the disk slightly tinged with brown; lamellæ subarcuate, adnate or subdecurrent, somewhat crenulate on the edge, white; stem tough, equal, viscid, smooth, whitish or pale-brownish, white-villous at the base; spores narrowly elliptical, .0002′ long; odor strong, subalkaline, for a long time persistent.

Plant 1′–1.5′ high, pileus 3′–4′ broad.

Mossy ground. Adirondack Mts. July.

Apparently near *A clavicularis* Fr., but smaller and easily known by its decided and peculiar odor which is retained by the dried specimens for a long time.

AGARICUS (PLEUROTUS) SUBAREOLATUS *n. sp.*

Pileus compact, convex, marginate behind, whitish tinged with brown and pink, usually cracking in small maculiform areas; lamellæ rather broad and loose, decurrent, whitish, becoming tinged with yellow in drying; stem eccentric, subvertical, short, curved, firm, solid, sometimes compressed, white; spores white, oblong, .0005′–.0006′ in length.

Pileus 3′–4′ broad.

Trunks of elm trees. Bethlehem. October.

Apparently related to *A. pulvinatus* Pers.

AGARICUS STRIATULUS *Fr.*

Decaying trunks of pine. North Greenbush. October. Buffalo. *Clinton.*

AGARICUS (PLUTEUS) LONGISTRIATUS *n. sp.*

Pileus thin, convex, then expanded, dry, striate to the disk, cinereous, the disk darker and minutely roughened with hairs or squamules; lamellæ broad, at length ventricose, free, white, then flesh-colored; stem equal, glabrous, white; spores orbicular, .0003′ in diameter.

Plant 2′ high, pileus 1′–1.5′ broad, stem 1″ thick.

Decaying wood. Albany. July.

AGARICUS (PHOLIOTA) ANGUSTIPES *n. sp.*

Pileus hemispherical, then convex or expanded, at first brown, then fading to ochraceous-brown or subalutaceous and becoming minutely squamulose with appressed dot-like scales; lamellæ narrowed outwardly, emarginate, whitish or dull cream color; stem stuffed, tapering downward, whitish or cinereous, roughened with darker scales which at first form a crenate annulus at the upper part; spores brownish-ferruginous, subelliptical, .0003′ long, .00018′ broad; flesh white.

Plant cæspitose, 2′–3′ high, pileus 1.5′–2.5′ broad, stem 2″–3″ thick.

In pastures about old stumps. Schenevus, Otsego county. September.

The pileus is sometimes irregular from being crowded in its growth. The taste is unpleasant and the scales of the stem are somewhat evanescent.

AGARICUS (PHOLIOTA) INDECENS *n. sp.*

Pileus convex, then expanded or centrally depressed, smooth, rather brittle, hygrophanous, pale-fuscous and usually striatulate on the margin when moist, alutaceous inclining to ochraceous when dry; lamellæ close, emarginate with a decurrent tooth, pale-brown, becoming cinnamon-brown; stem equal or slightly tapering upward, silky-fibrillose, hollow, annulate, pallid, the thin membranaceous annulus sometimes evanescent; spores unequally elliptical, .0005′–.0006′ long, .00025′–.0003′ broad.

Plant gregarious or cæspitose, 1′–2′ high, pileus 1′–2′ broad, stem 1″–2″ thick.

Ground in bushy pastures. North Greenbush. September.

It resembles somewhat *A. Aggericola* Pk., but it is smaller, paler, not viscid and has longer spores. The edge of the lamellæ is sometimes eroded.

AGARICUS (NAUCORIA) CONTRARIUS *n. sp.*

Pileus thin, convex, then plane or centrally depressed, sometimes umbilicate and striate on the margin, glabrous, alutaceous; lamellæ loose, adnate, very broad behind, becoming ventricose and subtriangular, ochraceous; stem equal, hollow, reddish or reddish-brown, adorned with a few silky-fibrils and minute fragments of the white floccose veil; spores yellow, elliptical, .0003′ long, .0002′ broad.

Plant gregarious or subcæspitose, about 1′ high, pileus 6″–10″ broad.

Grassy ground in pastures. Schenevus and West Albany. September.

The color of the pileus fades a little with age, but the bright color of the lamellæ is retained longer. There is usually an abundant white mycelium at the base of the stem. Often minute fragments of the floccose veil may be seen on the margin of the young pileus.

AGARICUS (STROPHARIA) UMBONATESCENS *n. sp.*

Pileus at first conical, subacute, then expanded and umbonate, smooth, viscid, yellow, the umbo inclining to reddish; lamellæ plane, broad, at length ventricose, blackish-brown with a slight olivaceous tint; stem equal, slender, hollow, generally a little paler than the pileus; spores purplish-brown, almost black, .0006′—0007′ long, .0004′ broad.

Plant 3′–4′ high, pileus 6″–12″ broad.

Dung in pastures. Schenevus. September.

This is evidently closely allied to *A. stercorarius* and *A. semiglobatus* with which it has probably been confounded, but the pileus in our plant is so peculiar in form that I am constrained to regard it as a distinct species. The viscid pellicle of the pileus is separable. When old it sometimes cracks into areas.

AGARICUS LACRYMABUNDUS *Fr.*

Bushy pastures. Bethlehem. October.

Our specimens do not agree in all respects with the published description of the species. The pileus is sometimes wholly destitute of scales and sometimes densely clothed with hairy erect ones. The species is manifestly variable.

AGARICUS CANDOLLEANUS *Fr.*

Ground and buried chips. North Greenbush and Greig. September and October.

AGARICUS (PSILOCYBE) LIMOPHILUS *n. sp.*

Pileus thin, convex, then expanded, fragile, atomaceous, radiately rugulose, whitish, often splitting on the margin and sometimes cracking into areas; lamellæ rather broad, loose, whitish or pallid, then purplish brown; stem equal, striate and slightly mealy at the top, hollow, short, white; spores elliptical, .0004′–.0005′ long, .0002′–.00025′ broad.

Muddy alluvial soil under willows. Green Island. September.

It is related to *A. incertus* Pk., but the veil is less developed, the lamellæ are more distant and the spores are larger.

AGARICUS (PSILOCYBE) ARENULINUS *n. sp.*

Pileus convex, then expanded, plane or centrally depressed, glabrous, hygrophanous, dark livid-brown and coarsely striatulate when moist, livid-white when dry; lamellæ close, cinnamon-brown, becoming darker with age; stem slightly tapering upward, hollow, whitish; spores subelliptical, .0004′ long.

Plant 1.5′–2.5′ high, pileus 6″–16″ broad, stem 1″ thick.

Sandy soil. West Albany. September.

When moist the pileus has a peculiar radiate appearance as if distantly striate. Large individuals have the margin of the pileus uneven and irregularly striate. A mass of sand usually adheres to the base of the stem.

AGARICUS (PSATHYRA) POLYTRICHOPHILUS *n. sp.*

Pileus thin, convex or subcampanulate, glabrous rather fragile, sometimes with a slight umbo, hygrophanous, striatulate and brown when moist, dull ochraceous or buff when dry, somewhat shining; lamellæ plane and adnate or slightly arcuate and decurrent, broad, subdistant, colored almost like the pileus; stem slender, equal, subflexuous, slightly whitish-fibrillose, especially toward the base, mealy at the top, concolorous, containing a whitish pith; spores purple-brown, subelliptical, .0003′ long, .0002′ broad.

Plant gregarious, odorous, 1′–2′ high, pileus 2″–5″ broad.

Ground among Polytrichum. Oneida. *Warne.* West Albany. May.

AGARICUS (PSATHYRELLA) GRACILOIDES *n. sp.* (Plate 1, figs. 1–4.)

Pileus thin, conical or campanulate, glabrous, hygrophanous, brown and striatulate when moist, whitish and subrugulose

when dry; lamellæ ascending, rather broad, subdistant, brown, becoming blackish-brown, the edge whitish; stem long, straight, fragile, hollow, smooth, white; spores blackish, elliptical, .0006′–.00065′ long, .0003′–.00033′ broad.

Plant gregarious, 4′–6′ high, pileus 1′ broad, stem 1″ thick.

Ground in an old door yard. Maryland. September.

This is allied to *A. gracilis* Fr., but the edge of the lamellæ is not rosy. When drying the moisture leaves the disk of the pileus first, the margin last. When dry the plant bears some resemblance to large forms of *A. tener*. Under a lens the texture of the surface of the pileus is seen to be composed of matted fibrils.

CORTINARIUS (PHLEGMACIUM) OPHIOPUS *n. sp.*

Pileus firm, convex or subcampanulate, then expanded, sometimes irregular, viscid, reddish-yellow, smooth, the paler margin sometimes roughened by adhering patches of the whitish veil; lamellæ close, often eroded on the edge, brownish-cinnamon; stem stout, equal, solid, usually much bent or variously curved, at first shaggy-scaly from the subconcentrically arranged fragments of the copious veil, white or yellowish; flesh white; spores unequally elliptical, .00045′–.0005′ long, .00025′–.0003′ broad, usually containing a single nucleus.

Plant 4′–6′ high, pileus 2′–4′ broad, stem 4″–6″ thick.

Among fallen leaves in woods. Maryland. September.

The long crooked stem is a noticeable feature of the species.

CORTINARIUS CRATICIUS *Fr.*

Low grounds. Center. October.

CORTINARIUS (HYDROCYBE) REGULARIS *n. sp.*

Pileus convex or expanded, glabrous, hygrophanous, watery-brown when moist, reddish-ochraceous when dry, often slightly radiate-rugulose; flesh whitish, becoming white when dry; lamellæ close, slightly violaceous when young; stem long, nearly straight, stuffed, slightly tapering upward, silky-fibrillose, white; spores elliptical, .0004′ long, .0003′ broad.

Plant gregarious, 3′–5′ high, pileus 1′–2′ broad, stem 1″–2″ thick.

Sphagnous marsh. Center. October.

The plant has a very regular symmetrical appearance, whence the specific name.

MARASMIUS PRÆACUTUS *Ellis.*

Trunks of dead alder trees. Mechanicsville. October.

The lamellæ are sometimes quite distant and rounded behind. The stem which is remarkable for its thickness and peculiar shape and which constitutes the chief part of the young plant is pulverulent under a lens.

PANUS TORULOSUS *Fr.*

Oak stumps. Greenbush. May.

BOLETUS VISCOSUS *Frost.*

Light sandy soil about pine woods. Center. October.

POLYPORUS OSSEUS *Kalchbr.*

Old stumps in woods. Guilderland. October.

Very rare. The pores in our specimens are a little larger than in an authentic specimen received from *Dr. Kalchbrenner.*

POLYPORUS (ANODERMEI) DUALIS *n. sp.*

Pileus dimidiate, sessile or sometimes produced behind into a stem-like base, convex or nearly plane above, somewhat uneven, rarely with a slight zonate appearance, single or cæspitosely imbricating, two to four inches broad, nearly as long, tawny or tawny-ferruginous, the margin sometimes paler; flesh concolorous, the upper stratum of a soft spongy-tomentose texture, the lower firm and fibrous; pores minute, unequal, more or less angular, with thin dissepiments, whitish and denticulate on the edge, about equal in length to the thickness of the flesh of the pileus, dark ferruginous with a whitish or silvery reflection.

Dead trunks of spruce trees. Adirondack Mts. Also at the base of pine trunks. West Albany. August and September.

The species is remarkable for the twofold character of the substance of the pileus, the upper half being of a soft tomentose nature, velvety to the touch and readily impressed by the finger nail, the lower half of a much firmer fibrous texture, smooth and subshining when cut or fractured. The plants are quite variable in size, shape and thickness of the margin which in some is quite thin, in others very obtuse In the latter the pores near the margin are often much enlarged or elongated so that the dissepiments appear like lamellæ. The species is related to *P. cuticularis* Fr., but I have not found it with any appearance of a cuticle nor of a blackish color, nor with a fimbriated margin — characters said to belong to that species. Besides, that species is attributed to deciduous trees while our plant has thus far occurred on coniferous trees only.

POLYPORUS NIDULANS *Fr.*

Dead oak and birch branches lying on the ground. Sandlake, North Greenbush and Adirondack Mts.

Our specimens are not villous and are fragrant when fresh, not when dry. This would indicate that they should be referred to *P. rutilans*, but the unequal pores forbid such a reference. It is surprising how few of our fungi agree accurately with the descriptions of published species. Either we have many more species peculiar to this country than has been supposed, or else many species have been very imperfectly described.

POLYPORUS (ANODERMEI) FRAGRANS *n. sp.*

Fragrant; pileus fleshy, tough, effuso-reflexed, imbricating, one to two inches long, two to four broad, rather thin but sometimes thickened at the base, velvety to the touch and clothed with a minute innate tomentum, pale reddish-grey or alutaceous, the thin margin concolorous and sometimes a little roughened, often sterile beneath; flesh slightly fibrous, zonate, concolorous; pores minute, unequal angular, about one line long, the dissepiments thin, acute, toothed or lacerated, whitish, becoming darker with age and blackish-stained when bruised.

Decaying trunks of elm trees. Bethlehem. October.

This species is closely related to *P. adustus* and *P. fumosus*, from which it is readily separated by the unequal pores. Its odor when fresh is very decided and quite agreeable, being not much unlike that of dry Seneca grass. The species has been collected in Vermont also by *Mr. A. P. Morgan*.

POLYPORUS (PLACODERMEI) ALBELLUS *n. sp.*

Pileus thick, sessile, convex or subungulate, subsolitary, two to four inches broad, one to one and a half thick, fleshy, rather soft, the adnate cuticle very thin, smooth or sometimes slightly roughened by a slight strigose tomentum, especially toward the margin, whitish tinged more or less with fuscous; flesh pure white, odor acidulous; pores nearly plain, minute, subrotund, about two lines long, white inclining to yellowish, the dissepiments thin, acute; spores minute, cylindrical, curved, white, .00016′–.0002′ long.

Decaying trunks and branches of birch trees. Helderberg Mts. October.

This species appears to be related to *P. paradoxus*, but the texture is manifestly firmer than in that and softer than in *P. betulinus*.

POLYPORUS CONNATUS *Weinm.*

Trunks of maple trees, *Acer saccharinum.* Sandlake. October.

POLYPORUS (INODERMEI) BALSAMEUS *n. sp.*

Pileus rather thin, corky, plain, about one inch broad, sessile or spuriously stipitate, slightly and unequally villose-tomentose, pale-brown marked with lighter concentric zones; flesh white; pores short, minute, subrotund, the thin dissepiments acute, denticulate, white.

Trunks of balsam trees, *Abies balsamea.* Adirondack Mts. August.

The villosity is so slight that it may be easily overlooked. It is not uniformly distributed over the whole surface but occurs in zones or patches. The species is apparently allied to *P. zonatus.*

POLYPORUS OBDUCENS *Pers.*

Decaying wood. Buffalo. June. *Clinton.*

POLYPORUS CALLOSUS *Fr.*

Decaying wood. Buffalo. December. *Clinton.*

POLYPORUS FARINELLUS *Fr.*

Decaying wood. Alexandria Bay. July. *Clinton.*

HYDNUM WEINMANNI *Fr.*

Decaying wood. Bethlehem. October.

IRPEX SINUOSUS *Fr.*

Dead branches lying on the ground. Wynantskill, Rensselaer county. November.

IRPEX FUSCOVIOLACEUS *Fr.*

Decaying trunks of spruce, *Abies nigra.* Adirondack Mts. July.

Our specimens are not "silky," as required by the description, but villose or tomentose-villose as in *Polyporus hirsutus* and *P. abietinus*, the latter of which this species closely resembles. The hymenium, however, is coarser, more highly colored and lamellated to such an extent that young specimens might easily be taken for a Lenzites.

IRPEX OBLIQUUS *Fr.*

On dead oak and alder trees. North Greenbush, Center and Sandlake. October and November.

At first it looks more like a small white orbicular resupinate Polyporus than an Irpex. Very common.

RADULUM ORBICULARE *Fr.*

Decaying wood and bark of deciduous trees. Slingerlands and Mechanicsville. October.

PHLEBIA MERISMOIDES *Fr.*

Decaying wood. Indian Lake. October.

This species is apparently very close to *P. radiata*. Our specimens are referred to it because of their pale color and more strigose margin.

GRANDINIA VIRESCENS *n. sp.*

Effused, thin, separable from the matrix, soft, greenish, becoming darker with age; granules minute, hemispherical, not crowded; spores broadly elliptical or suborbicular, .0002′ long.

Decaying wood. Oneida. *Warne.* September.

Remarkable for its beautiful color.

GRANDINIA RUDIS *n. sp.*

Effused, thin, soft, pulverulent-tomentose, tawny-brown, the hymenium at length granulose; spores globose, rough, .0003–.0004′ in diameter.

Decaying wood and ground in deep shaded places. North Greenbush. October.

It is allied to *G. coriaria* Pk. in texture and in the character of the spores, but it differs in color and habit. The whole plant is of one uniform hue.

THELEPHORA SPECIOSA *Fr.*

Providence, Saratoga county. August.

But a single specimen was found and in it the tips of the branches are not fimbriate; otherwise the characters are well shown.

HYMENOCHÆTE AGGLUTINANS *Ellis.*

Trunks and branches of living alder trees. Sandlake and Adirondack Mts. July and November.

HYMENOCHÆTE SPRETA *n. sp.*

Effused, adnate, somewhat uneven, thick, ferruginous, beset with rather long slender acute setæ, at length cracking into frustulate-areolæ.

Decorticated wood. Helderberg Mts. October.

This quite closely resembles some forms of *H. corrugata*, but its bright color and thicker substance, which shrinks more in drying so that the matrix is revealed through the chinks, and the areas become as it were frustules, indicate a distinct species.

The setæ are more slender and more sharp-pointed than in *H. corrugata*.

CORTICIUM QUERCINUM *Pers.*

Dead oak branches. Greenbush. September.

The specimens are a little paler than in the type, but this is probably due to lack of age.

CORTICIUM LACTEUM *Fr.*

Decaying wood. Slingerlands. October.

CORTICIUM SAMBUCI *Fr.*

Dead stems of elder, *Sambucus Canadensis*. Mechanicsville. October.

CORTICIUM CÆRULEUM *Fr.*

Decaying wood. Buffalo. November. *Clinton*.

CORTICIUM MARTIANUM *B. & C.*

Decaying wood. Buffalo. *Clinton*. Mechanicsville. October.

It is not without some hesitation that our specimens are referred to this species, for, though they agree very well with specimens published under this name by *Mr. H. W. Ravenel* and with those distributed by the late *Dr. Curtis*, they do not well agree with the published description of the species. In color they are bright red inclining to cinnabar, the surface often suffused with a slight bloom or pruinosity. The margin on smooth surfaces is obscurely radiately wrinkled, giving the idea of a Phlebia, and this illusion is further sustained by the hymenium in the dried specimens becoming radiately rimose. The substance when fresh is blood red within, and the mycelium is of a beautiful yellow color and penetrates the matrix. It is sometimes confluent, forming patches several inches in extent.

CORTICIUM SUFFOCATUM *n. sp.*

Effused, indeterminate; subiculum whitish or pale tawny, composed of intricate webby filaments; hymenium tawny-brown, of a smooth waxy appearance when moist, dusted by the spores and more or less rimose when dry, revealing the paler subiculum through the chinks; spores elliptical, colored, .0004 long, .0003 broad.

Under surface of pine and hemlock wood lying on the ground. Sandlake and Bethlehem. November.

CYPHELLA GRISEOPALLIDA *Weinm.*

Bark and twigs lying on the ground. Sandlake. November.

The cups are sometimes furnished with very short stems.

CLAVARIA TYPHULOIDES *n. sp.* (Plate II, figs. 12–14.)

Very small, about two lines high, rather tough, scattered or gregarious, clavate, white, the stem slightly pruinose, gradually swelling into the obtuse glabrous subcompressed solid club; spores oblong-elliptical, .0002′–.0003′ long, with an oblique point at the base.

Dead stems of *Epilobium angustifolium*. Adirondack. August.

This belongs to the section *Holocoryne*, and is apparently allied to *C. uncialis*, but its much smaller size and usually compressed club will serve to distinguish it. When dry the white color is well retained and the hymenium has a subpellucid appearance and is of a firmer texture than the center of the club.

CLAVARIA AMETHYSTINA *Bull.*

Ground. Oneida. July. *Warne.*

PISTILLARIA COCCINEA *Cd.*

Dead leaves and petioles of tansy, *Tanacetum vulgare*. Sandlake. June.

TREMELLA INTUMESCENS *Sow.*

Dead alder branches. Sandlake. November.

NÆMATELIA CEREBRIFORMIS *Ellis in litt.*

Dead branches of water-beech, *Carpinus Americana*. Albany. September.

Mr. Ellis sends this under the above name. It appears to differ from *N. encephala* in being lighter colored and in having the nucleus of a softer texture.

DACRYMYCES MINOR *n. sp.*

Small, subglobose, scattered or rarely a few crowded together, dingy ochraceous with a slight olivaceous tint; spores oblong, curved, with a slight oblique apiculus at one end, simple, then uniseptate, finally triseptate, .0005′–.0006′ long, .0002′ broad.

Decaying wood. Buffalo, *Clinton*. Sandlake. November. The plants are scarcely half a line in diameter.

BOVISTA PILA *B. & C.*

Ground in grassy places. Oneida. *Warne*. Sandlake and Albany.

Our specimens appear to belong to this species but I have never seen them with bits of grass adhering to the peridium, and the spores vary in color from dingy-olivaceous, at first, to purplish brown when old.

LYCOPERDON SACCATUM *Fr.*

Ground. Sandlake and Center. Autumn.

AMAUROCHÆTE ATRA *A. & S.*

Trunks of pine trees. Adirondack Mts. August.

PHYSARUM LUTEOLUM *n. sp.* (Plate II, figs. 15–18.)

Peridium small, closely gregarious, sessile, yellowish inclining to tawny, rupturing irregularly; flocci abundant, yellowish-white; spores globose, purplish-brown, .0004′ in diameter.

Living leaves of *Cornus Canadensis*. Adirondack Mts. July.

PHYSARUM ALBICANS *n. sp.* (Plate II, figs. 5–8.)

Peridium whitish, fugacious, except at the base, externally mealy with lime granules, globose, as well as the more persistent whitish capillitium; stem white, tapering upwards, sometimes connate at the base, slightly penetrating; spores globose, purplish-brown, .0003′ in diameter.

Bark and mosses. Adirondack Mts. July.

The fragments of the base of the peridium sometimes remain just below the capillitium, surrounding the stem like a calyx or collar. The stem is even and generally longer than the peridium which it penetrates. After the spores have fallen the whitish color of the capillitium becomes apparent. It then resembles a small globose tuft of wool. The plants grew on the branches and mosses of a standing dead birch tree. *Didymium subroseum* is apparently the same species with a pinkish tinge to the peridium.

DIACHÆA SPLENDENS *n. sp.* (Plate II, figs. 1–4.)

Peridium steel-blue or violaceous, delicate, globose, subpersistent, rupturing irregularly; flocci delicate, colored; stem white, slightly penetrating; spores black in the mass, globose, rough, .0003′–.0004′ in diameter.

Fallen leaves and twigs. North Greenbush. October.

This is a very pretty and distinct species. The globose peridia and rough spores make it easily recognized. It is near *D. elegans* in color, but at once distinguished from it by its globose peridium.

TRICHIA FALLAX *Pers.*

Decaying wood. Oneida. *Warne*. Portville. September.

PERICHÆNA IRREGULARIS *B. & C.*

Bark of decaying sticks. "The Plains." October. *Clinton*.

CLATHROPTYCHIUM RUGULOSUM *Wallr.*

Trunks of poplars. Adirondack Mts. July.
The young plant has a bright flesh-color or orange hue.

NIDULARIA PULVINATA *Schw.*

Old fence boards lying on the ground. Greenbush. October.

LEPTOSTROMA LINEARE *n. sp.*

Perithecia flattened, thin, subangular, at first covered by the epidermis, striated, generally with a sharp elevation or ridge along the center, mostly seriately placed, black; spores slender, oblong, curved, colorless, .0003′–.0004′ long.

Dead stems of *Actæa spicata.* Helderberg Mts. May.

PHOMA STROBILINUM *Peck & Clinton n. sp.*

Perithecia minute, scattered, erumpent, black; spores elliptical or subovate, colorless, .0003′ long.

Cones of *Pinus Strobus.* Buffalo. December. *Clinton.*

PHOMA STERCORARIUM *P. & C.*

Perithecia membranaceous, minute, scattered, black; spores large, elliptical, .0005′–.0006′ long.

Goose dung. Portage. November *Clinton.*
It is highly probable that this is a nonascigerous state of some dung Sphæria. As a Phoma it is remarkable for the large size of the spores.

SPHÆRONEMA ROBINIÆ *B. & C.*

Dead twigs of basswood, *Tilia Americana*, Buffalo. *Clinton.* Catskill Mts. June.

SPHÆRONEMA AURANTIACUM *n. sp.* (Plate II, figs. 9–11.)

Perithecia small, erumpent, hemispherical or subconical, sometimes with a slight papilliform ostiolum, orange; spores oblong-elliptical, colorless, .0003′–.0004′ long, oozing out and forming a whitish or pale cream-colored globule.

Dead bark of *Cornus alternifolia.* Bethlehem. May.
The species is remarkable for its orange-colored perithecia.

SPHÆROPSIS PENNSYLVANICA *B. & C.*

Dead branches of ash trees. Buffalo. February. *Clinton.*

SPHÆROPSIS MINIMA *B. & C.*

Living leaves of red maple, *Acer rubrum.* North Greenbush. June.

The perithecia are epiphyllous, the spores are obovate or subangular and are involved in mucus. The brownish spots frequently have a darker border.

SPHÆROPSIS SYRINGÆ *P. & C. n. sp.*

Perithecia small, scattered, erumpent, black; spores oblong or elliptical, colored, .0008′–.001′ long, .0004 broad.

Dead lilac twigs. Buffalo. January. *Clinton.*
Perhaps this is only a form of *Diplodia Syringæ* Awd.

DIPLODIA THUJINA *P. & C.*

Perithecia subhemispherical or elliptical, rugulose or substriate, black; spores oblong-elliptical, slightly constricted, colored, .0007′–.0009′ long.

Wood and bark of *Thuja occidentalis.* Buffalo. May. *Clinton.*
The form on bark has the perithecia erumpent and closely surrounded by the epidermis. In the other the perithecia are nearly free and often elliptical in shape.

ACROSPERMUM GRAMINUM *Lib.*

Dead stems of grass, *Calamagrostis Canadensis.* West Albany. June.

EXCIPULA LANUGINOSA *n. sp.* (Plate I, figs. 14–18.)

Perithecia small, yellowish or orange, numerous, almost concealed by the long, soft, wooly, dingy-white or pinkish-white hairs; spores oblong, colorless, .0003′–.00035′ long.

Dead stems of melilot. Bethlehem. September.
The species is remarkable for its long, pale, wooly hairs and its light-colored perithecia. These are sometimes so crowded together that they appear to form a continuous fleecy stratum. A relationship with the genus Trichoderma is indicated.

DISCELLA CANADENSIS *n. sp.*

Pustules very small, perithecia obsolete or wholly wanting; spores oozing out in a black mass or in tendrils, oblong or oblong-ovate, .0008′–.001′ long, at first pale, then colored, some of them becoming uniseptate.

Dead branches of *Amelanchier Canadensis.* Center. June.
The subequal hyaline sporophores sometimes remain attached to the young spores. The species approaches the genus Melanconium.

DISCELLA ARIDA *n. sp.*

Perithecia seated on rather large arid grayish spots, minute, flattened, peziza̱form, black, at first covered by the epidermis, then forming a ring by the falling away of the center; spores oblong or lanceolate, simple, then uniseptate, colorless, .00035′–.0005′ long.

Living or languishing leaves of *Cassandra calyculata*. Adirondack Mts. August.

The plant might at first sight be taken for a minute black Peziza. The spots usually occur on the apical half or on the margin of the leaf, but sometimes the whole leaf is discolored.

MELANCONIUM INTERMEDIUM *n. sp.*

Spores very irregular, subglobose, ovate, elliptical or oblong, black, about .001′ long.

Dead hickory branches. Buffalo. *Clinton*. Greenbush.

This species is intermediate between *M. oblongum* and *M. magnum*, the spores being larger than in the former, smaller than in the latter.

TORULA CURVATA *n. sp.*

Flocci tufted, elongated, curved or flexuous, here and there slightly constricted, multiseptate, the cells mostly broader than long, the tufts forming an effused black patch.

Dead branches of *Myrica Gale*. Adirondack Mts. August.

SEPTONEMA DICHÆNOIDES *P. & C. n. sp.*

Tufts of flocci minute, clustered in small suborbicular or elliptical patches, black; flocci .0003′–.0004′ thick, at length breaking up into simple or one to two-septate oblong-elliptical spores.

Living alder bark. Olean. May. *Clinton*.

The patches resemble those of *Dichæna faginea*. The species appears to be intermediate between Septonema and Torula.

PUCCINIA ORBICULA *P. & C.*

Uredo form. Spots small, orbicular, yellowish, sometimes tinged with purple; sori circinating, tawny-ochraceous; spores subglobose, .0008′–.001′ in diameter.

Puccinia form. Sori blackish-brown, circinating, often arranged in a single circle on the margin of the spot; spores broadly elliptical, rough, .0013′–.0015′ long, .0008′–.001′ broad.

Petioles and under surface of leaves of Nabalus. Buffalo. *Clinton*. Also on Solidago leaves. Center. May.

The beautiful tawny-ochraceous color of the Uredo form and the circinating sori are noticeble features.

PUCCINIA HYDROPHYLLI *P. & C. n. sp.*

Spots yellow or greenish-yellow; sori small, clustered, sometimes confluent, blackish-brown; spores loose, elliptical, rough, slightly constricted, .001′ long, .0007′–.0008′ broad; pedicel very short, hyaline.

Lower surface of living leaves of *Hydrophyllum Virginianum*. Buffalo. May. *Clinton*.

Related to *P. Menthæ* from which the different habit and very short pedicel will separate it.

UREDO CASSANDRÆ *P. & C. n. sp.*

Spots small, irregular, yellowish or chestnut; sori generally crowded together in small clusters, somewhat angular or irregular, surrounded by the remains of the ruptured epidermis; spores yellow, elliptical ovate or subglobose, roughened, .0008′–.001′ long.

Lower surface of living leaves of *Cassandra calyculata*. Center and Sandlake. June. Machias. *Clinton*.

MELAMPSORA EPILOBII *Fckl.*

Leaves of *Epilobium angustifolium*. Newcomb, Essex county. August.

ÆCIDIUM SANICULÆ *Carm.*

Leaves of Sanicle. Buffalo. *Clinton*.

CLADOSPORIUM DEPRESSUM *B. & Br.* (Plate I, figs. 22–24.)

Living leaves of *Archangelica atropurpurea*. Buffalo. June. *Clinton*.

The spores bear some resemblance to Puccinia spores.

HELMINTHOSPORIUM ABSINTHII *n. sp.* (Plate II, figs. 28–30.)

Flocci forming effused dark-olivaceous or brown patches or minute tufts, simple, septate, colored, subflexuous, irregular or knotty above; spores oblong-clavate, very unequal in length, .001′–.004′ long, one to five-septate, paler than the flocci.

Living leaves of wormwood, *Artemisia Absinthium*. Adirondack, Essex county. August.

On the upper surface of the leaves the flocci form minute tufts, so small as to be easily overlooked. On the lower surface they are more abundant and form effused velvety patches which are quite conspicuous. The spores are extremely abundant, but they fall away so easily that it is difficult to find them in place.

MACROSPORIUM SARCINULA *Berk.*

Decaying squashes. Buffalo. December. *Clinton.*

CLADOSPORIUM NODULOSUM *Cd.*

Dead leaves of sedges. Albany. June.

RAMULARIA BRUNNEA *n. sp.*

Spots brown, unequal, suborbicular, sometimes confluent; flocci occupying the larger spots and giving them an ashy tint, epiphyllous, fasciculate, short, delicate; spores cylindrical, colorless, very unequal in length, .0005′–.0015′ long, .00016′ broad.

Living leaves of colts-foot, *Tussilago Farfara.*

The large fertile spots are intermingled with smaller irregular sterile darker-colored ones.

CERCOSPORA SYMPLOCARPI *Pk.* (Thumen's Myc. Univ. No. 669.)

Spots definite, brown, suborbicular; flocci very short, colored, tufted; spores very long, narrow, three to five-septate, paler than the flocci, .003′–.005′ long.

Living leaves of Skunk Cabbage, *Symplocarpus fœtidus.* West Albany and Center. June and July.

CERCOSPORA LEPTOSPERMA *n. sp.*

Flocci tufted, short, hyaline, seated on pale-greenish angular spots; spores colorless, very slender, subfiliform, slightly thicker toward the base where there are usually one or two obscure septa, .003′ long.

Living leaves of sarsaparilla, *Aralia nudicaulis.* Albany.

CERCOSPORA AMPELOPSIDIS *n. sp.*

Spots suborbicular, reddish-brown with a darker margin; flocci hypophyllous, rather long, flexuous, colored, septate; spores slightly colored, subcylindrical, at first simple, then one to three-septate, .001′–.0013′ long.

Living leaves of woodbine, *Ampelopsis quinquefolia.* Bethlehem. July.

CERCOSPORA CHENOPODII *Fckl.*

Living leaves of *Chenopodium album*. West Albany. July.

PERONOSPORA ALTA *Fckl.*

Living leaves of plantain, *Plantago major*. Albany. July. This is sometimes regarded as a form of *P. effusa*.

PERONOSPORA INFESTANS *De By.*

Living leaves of potato vines. Adirondack. August.

This fungus, for a long time considered the cause of the potato disease, has, until recently, baffled all efforts to trace its life-history. But at last Mr. W. G. Smith, an earnest botanist, a most careful observer and skillful experimenter, has succeeded in tracing this history through the yearly cycle. He has found and kept alive through the winter, the hibernating or resting spores of the fungus and caused these to reproduce the pestilent potato fungus. His discovery is so important that I cannot do better than to quote his concluding remarks on the subject, a full account of which is given in the *Gardeners' Chronicle:*

"For more than thirty years our potato crops have been systematically destroyed by two virulent fungi, viz., Peronospora infestans and Fusisporium Solani; these two parasites almost invariably work in company with each other, they suddenly appear for a few weeks, destroy our crops and vanish for ten or twelve months then reappear and repeat the work of destruction. I claim for my work that it is new, and that it has proved how both these fungi hide and sleep through eleven months of the year. As I have kept the resting-spores of both parasites alive artificially in decayed potato leaves in water, in moist air, and in expressed diluted juice of horse dung, it conclusively proves to me that the resting-spores hibernate naturally in the same manner. The seat of danger from both parasites is clearly in dung heaps, ditch sides and decaying potato plants.

"Any method of destroying the resting-spores of these pests, or of warding off or mitigating their attacks, obviously depends in a great measure upon a full knowledge of their life-history. That life-history I have endeavored, to the best of my ability, to watch and describe for the *Gardeners' Chronicle*, and I am content to let the observations stand on their own merits. Sensibly conducted and extensive field experiments might probably teach some valuable lessons, but it is difficult, if not impossible, for any single individual, whether farmer or botanist, to institute and carry out such experiments."

VERTICILLIUM PULVEREUM *P. & C. n. sp.*

Effused, pulverent, dark or snuff-brown; flocci colored, the lower branches alternate, the upper opposite or verticillate,

ultimate branchlets short, cylindrical, obtuse; spores abundant, broadly elliptical or subglobose, colored, .00025′–.0003′ long, .0002′–.00025′ broad.

Decaying wood. Alden. November. *Clinton.*
It forms thin dusty patches on the surface of the wood.

POLYACTIS CANA *Berk.*

Decaying cabbage leaves. Buffalo. March. *Clinton.*

TRICHODERMA VIRIDE *Pers.*

Decaying wood. Alden. November. *Clinton.*

DACTYLIUM SUBLUTESCENS *n. sp.*

Tufts pulvinate, sometimes confluent, pinkish-yellow or cream-colored; flocci erect, simple or sparingly and obscurely septate; spores apical, oblong or obovate, uniseptate, .0008′–.0014′ long, sometimes with a blunt point at the base.

Dead branches of alder and poplar trees. Albany and North Greenbush. September.

The species is apparently related to *D. obovatum* Berk. At first sight the tufts appear to be erumpent, but upon closer inspection they are seen to grow upon some effete erumpent Sphæria. In some instances white tufts of more slender branched flocci were associated with the others. Perhaps these are sterile flocci of the same plant.

OIDIUM FASCICULATUM *Berk.*

Decaying oranges and lemons. Buffalo. December. *Clinton.* Albany. July.

OIDIUM ALBIPES *n. sp.*

Flocci forming short white stems supporting subglobose heads of a grayish-brown color, sometimes tinged with green; spores oblong-ovate or lanceolate, pale, .00033′ long, with a slight apiculus at the smaller end.

Decaying wood. Bethlehem. June.

CAPILLARIA SPHÆRIÆ-TYPHINÆ *Cd.*

Parasitic on *Epichloe typhina.* Greenbush. July.

MENISPORA CILIATA *Cd.*

Our specimens do not agree well with the description of this species. The flocci are not "olive-brown" and the spores are cylindrical rather than "fusiform," but as they exhibit the bristle at the extremities of the spores, and agree essentially

with European specimens distributed under this name, it seems best thus to refer them.

ZYGODESMUS PANNOSUS *B. & C.*

Decaying wood lying on the ground. North Greenbush. October.

ZYGODESMUS RUBIGINOSUS *n. sp.*

Effused, indeterminate, bright-rubiginous, not granulated, the patches paler toward the margin; spores globose, rough, .0003′ in diameter.

Decaying wood. Greenbush. October.

This resembles *Z. hydnoideus* B. & C. in color, but the absence of a granulated surface and the smaller spores will separate it.

FUSISPORIUM RIMOSUM *n. sp.*

Effused, bright orange or red, at length cracking and revealing through the chinks the white substratum; flocci slender, simple or sparingly branched; spores long, acute at each end, one to three-septate, .0008′–.0018′ long.

Cut ends of corn stalks. Center. October.

The bright color is retained in the dried specimens. In this respect and in the firmer substance and rimose character it differs from its allies.

ERYSIPHE LIRIODENDRI *Schw.*

Leaves of the tulip tree, *Liriodendron Tulipifera.*
Oneida. September. *Warne.*

MORCHELLA BISPORA *Sor.*

Ground among fallen leaves in ravines. Oneida. *Warne.*

The remarkable feature about this species is that there are but two spores in an ascus.

MORCHELLA SEMILIBERA *DC.*

Ground. Oneida. May. *Warne.*

MORCHELLA DELICIOSA *Fr.*

Ground in open fields. Oneida. *Warne.* West Albany. May and June.

This species has a firmer substance, paler color, smoother stem and smaller spores than *M. esculenta.* It is also generally smaller in size and has a more cylindrical pileus, which is sometimes curved.

VERPA DIGITALIFORMIS *Pers.*

Ground. Oneida. May. *Warne.*

PEZIZA SULCATA *Pers.*

Ground. Oneida. *Warne.*

The spores in the specimens are smooth and uninucleate but this may be due to the immaturity of the specimens.

PEZIZA (COCHLEATÆ) WARNEI *n. sp.* (Plate I, figs. 19–21.)

Cups large, 1′–1.5′ broad, at length expanded with the margin often wavy or irregular, externally whitish or pallid, usually lacunose at the narrowed stem-like base; disk brown or ochraceous-brown; asci cylindrical; spores uniseriate, oblong-elliptical, with a short acute point at each end and slightly rough when mature, .001′–.0014′ long, mostly trinucleate, the central nucleus largest.

Hemlock stumps. Oneida. *Warne.* Helderberg Mts. May.

This seems to approach *P. semitosta* B. & C., in some respects, but it differs in its external characters, habitat and spores. Dedicated to *Mr. H. A. Warne.*

PEZIZA BICOLOR *Bull.*

Dead branches of *Myrica Gale.* Adirondack Mts. August.

PEZIZA (DASYSCYPHÆ) MYRICACEA *n. sp.*

Cups small, .02′–.03′ broad when dry, sessile or with a very short stem, tawny-brown or subcervine, densely hairy, expanded when moist and revealing the whitish disk; asci subcylindrical, about .0016′ long; paraphyses as broad as the asci and much longer, tapering above to a sharp point; spores minute, spermatoid.

Dead stems and branches of *Myrica Gale.* Adirondack Mts. August.

The species is related to *P. brunneola* Desm., but is larger and has different hairs. These are very long, not septate nor thickened at the tips. They appear minutely rough under the microscope. When dry, they, with the incurved margin, wholly conceal the disk from view. The spores in our specimens do not seem to be well developed.

PEZIZA (DASYSCYPHÆ) SULPHURELLA *n. sp.*

Pale yellow throughout; cups minute, numerous, stipitate, closed when dry, hairy, the hairs septate, rough, capitate;

asci cylindrical; spores oblong or cylindrical, .0008′ long; paraphyses longer than the asci, tapering above to a point.

Dead stems of *Myrica Gale*. Adirondack Mts. August.

This differs from *P. brunneola* in color and in having a hairy stem. The plant is much smaller than *P. myricacea*.

PEZIZA (DASYSCYPHÆ) CAPITATA *Pk.* (Thumen's Myc. Univ. No. 813.)

Cups minute, sessile, subglobose and usually closed when dry, open when moist, white, clothed with septate capitate white hairs, hymenium whitish inclining to yellow; asci cylindrical, .0012′ long; spores straight, acicular, .0002′–.0003′ long; paraphyses longer than the asci, pointed at the extremities.

Fallen oak leaves. Bethlehem. June.

The specific name has reference to the capitate hairs. These spring directly from the cellular substance of the cup. The base of the hairs is enlarged and distinctly septate. The sessile cups and white color separate this from the next preceding species.

PEZIZA (DASYSCYPHÆ) DISTINCTA *n. sp.* (Plate 1, figs. 9–13.)

Cups small, .03′–.05′ broad, sessile or attached by a mere point, externally blackish, the margin tomentose-hairy, pale-tawny, or olivaceous, the disk pinkish-red when moist, orange when dry; asci clavate, often containing but four spores; spores oblong-fusiform, straight or curved, .0008′–.001′ long.

Dead stems of *Andropogon furcatus*. Center. October.

When dry the margin is inflexed and the cups are then often hysteriiform, the tomentose hairs of the margin concealing the disk and giving the chink an olivaceous or tawny hue.

PEZIZA MACULINCOLA *Schw.*

Decorticated wood. Buffalo. March. *Clinton.*

This is regarded by some as synonymous with *P. flammea* A. & S. *Mr. W. C. Stevenson, Jr.*, to whom I am indebted for many acts of kindness in comparing specimens with the types in Schweinitz's Herbarium, considers the two, as therein represented, to be distinct.

PEZIZA VULPINA *Ck.*

Decaying wood. Buffalo. *Clinton.*

PEZIZA (DASYSCYPHÆ) CHAMÆLEONTINA *n. sp.*

Cups minute, .006′–.015′ broad, at first globose, then expanded with the disk nearly plane, scarcely furfuraceous, white, chang-

ing to yellow when bruised, then to pinkish or red, stem short; asci clavate, .001′–.0014′ long; spores crowded, oblong-ovate or subclavate, .0002′ long.

Under surface of hemlock wood lying on the ground. Sandlake. November.

The changes in color, when bruised, is an interesting character. The species is related to *P. hyalina* and perhaps more closely to *P. aspidiicola*, and is therefore placed among the Dasyscyphæ, although there is scarcely any appearance of hairiness on the cups.

PEZIZA (HUMARIA) DELIGATA *n. sp.*

Cups minute, gregarious, sessile, with radiating hyaline fibrils at the base, at first subglobose, then open with the disk nearly plane, brick-red; asci broad, oblong or subcylindrical; spores biseriate, elliptical, smooth, .0006′–.00075′ long.

Dead stems of herbs lying on the ground. Bethlehem. September.

The cups sometimes have a thick tumid margin. In some respects the species resembles *P. hæmastigma*. It appears to belong to the subgenus Humaria, but the habitat is unusual.

PEZIZA POLYGONI *Rehm.*

Dead stems of Polygonum. Albany. July.

PEZIZA MACROSPORA *Fckl.*

Decaying wood. Buffalo. November. *Clinton.*

HELOTIUM CARICINELLUM *n. sp.* (Plate 1, figs. 5–8.)

Small, .02′–.03′ broad, scattered, sessile, reddish or ochraceous-brown when moist, black or blackish when dry, the disk plane or slightly concave; asci clavate; spores crowded, oblong, obtuse, uniseptate, colorless, .0008′–.001′ long.

Dead leaves of *Carex utriculata*. Adirondack. August.

This is a true Helotium as is shown by the cups being open from the first, and yet it is apparently related to *Peziza lacustris*.

HELOTIUM BRYOGENUM *n. sp.*

Cups minute, substipitate, scattered, pallid or yellowish-white and expanded when moist, livid-red or subviolaceous and concave with a tumid margin when dry; spores subfusiform, sometimes curved, .0006′–.0007′ long.

Mosses, *Hypnum delicatulum*. Maryland. September.

DERMATEA CARPINEA *Fr.*

Dead branches of Carpinus. Buffalo. *Clinton.* Albany. October.

DERMATEA INCLUSA *n. sp.*

Minute, scattered, erumpent, sessile, closely surrounded by the ruptured epidermis, margined, the margin mealy or furfuraceous, the disk plane or concave, subochraceous; asci broad, oblong-cylindrical; spores large, biseriate or crowded, oblong-elliptical, sometimes slightly curved, simple, colorless, .0011'-.0014' long.

Dead trunks of willows. Maryland. September.

The cups scarcely rise above the ruptured epidermis that invests them. When moistened or crushed on the slide of the microscope the substance appears to be of a rhubarb color. The species therefore has some little relationship to *Patellaria rhabarbarina*. The spores sometimes contain a single large nucleus, sometimes three or four small ones and sometimes a mass of granular endochrome.

PATELLARIA LEPTOSPERMA *n. sp.*

Black, stipitate; receptacle plane, the margin narrow or obliterated, about one line broad, externally subscabrous; stem about one line high, scabrous, often longitudinally wrinkled when dry; asci cylindrical or clavate; spores biseriate, slender, elongated, cylindrical, multinucleate or obscurely multiseptate, .0016'-.003' long; paraphyses very slender, filiform, capitate.

Dead bark of maple, *Acer saccharinum*. Oneida. *Warne.* Buffalo. *Clinton.*

The number of the nuclei is from ten to sixteen.

PATELLARIA LIGNYOTA *Fr.*

Decaying wood. Angola. May. *Clinton.*

TYMPANIS TURBINATA *Schw.*

Dead stems of bush honeysuckle, *Diervilla trifida*. Center. May.

ASCOBOLUS VIRIDIS *Curr.*

Alluvial soil. Albany. June.

ASCOBOLUS CRENULATUS *Karst.*

Cow dung. Oneida. *Warne.* Helderberg Mts. May.

STICTIS (PROPOLIS) CYLINDRICARPA *n. sp.*

Immersed, minute, erumpent, closely surrounded by the ruptured epidermis, the whitish margin toothed or laciniated, the disk plane, greenish-olivaceous; spores crowded, cylindrical, straight or curved, obtuse, colorless, .0007–.0008′ long, .00015′ broad, sometimes obscurely two to three septate.

Dead bark of willows. Maryland. September.

This occurred in company with *Dermatea inclusa*. Its relationship is with *Stictis versicolor*, of which it may yet prove to be a minute variety.

HYSTERIUM AUSTRALE *Duby.*

Dead grape-vines. Poughkeepsie. *W. R. Gerard.*

HYSTERIUM TRUNCATULUM *C. & P.*

Decaying wood. Buffalo. *Clinton.*

The spores are of the same character as those of *Hysterium pulicare*, differing only in their larger size.

HYSTERIUM ELLIPTICUM *DC.*

Hickory bark. Poughkeepsie. *Gerard.*

HYSTERIUM THUIARUM *C. & P.*

Bark of *Thuja occidentalis*. New Baltimore. *E. C. Howe, M. D.*

HYSTERIUM (GLONIUM) PARVULUM *Ger.*

Decaying wood. Poughkeepsie. *Gerard.*

HYSTERIUM (GLONIUM) SIMULANS *Ger.*

Decaying wood. Poughkeepsie. *Gerard.* North Greenbush.

HYPODERMA DESMAZIERII *Duby.*

Fallen pine leaves. Poughkeepsie. *Gerard.* Sandlake. July.

HYPOMYCES OCHRACEUS *Tul.*

Decaying Polyporus. Helderberg Mts. May.

HYPOXYLON SUBORBICULARE *n. sp.*

Stroma thin, flattened, erumpent, suborbicular, surrounded by the ruptured epidermis, growing from the inner bark, purplish-brown, then black, the surface slightly uneven as if areolate-rimose; perithecia monostichous, subglobose; ostiola

sunken, perforate, sometimes whitish; spores unequally elliptical, colored, .0004′–.0005′ long.

Maple bark, *Acer saccharinum*. Sandlake. November.

This species is apparently allied to *H. Laschii* Nke., and approaches in some respects species of Nummularia.

DOTHIDEA RIMINCOLA *Schw.*

Dead twigs of *Diervilla trifida*. Buffalo. *Clinton*.

I fail to see why Schweinitz referred this fungus to the genus Hysterium since there is no chink or linear opening in any of the specimens that have come under my inspection.

DOTHIDEA EPISPHÆRIA *n. sp.*

Stroma small, slightly prominent, scattered or subconfluent, often irregular, carbonaceous, black; nuclei numerous, white within; spores crowded or biseriate, lanceolate or subfusiform, colorless, .0006′–.0007′ long.

Effete *Diatrype stigma*. Maryland. September.

The spores may possibly be uniseptate when fully mature. Those examined are not clearly septate.

DOTHIDEA CARICIS *Fr.*

Dead leaves of *Carex Pennsylvanica*. West Albany. June.

DOTHIDEA OSMUNDÆ *P. & C. n. sp.*

Minute, linear, innate, erumpent through a narrow chink, scarcely emergent, black, nuclei whitish; asci subcylindrical; spores narrow, oblong, uniseptate, slightly constricted, colorless, .00065′ long, one cell usually a little swollen at the septum.

Dead stems of Osmunda. Buffalo. *Clinton*. Sandlake. June.

Authors do not all agree in the characters they ascribe to the spores of *Dothidea filicina*, one describing them as "elliptical uniseptate," another as "triseptate." Neither of these descriptions will apply to the spores of the species just characterized. The Dothidea which I find on *Pteris aquilina*, the habitat assigned to *D. filicina*, has the spores triseptate.

DIATRYPE FERRUGINEA *Fr.*

Dead branches of birch, *Betula lutea*. Sandlake. August.

VALSA JUGLANDICOLA *Schw.*

Dead hickory branches. Buffalo. December. *Clinton*. West Troy. June.

VALSA (OBVALLATA) INNUMERABILIS *n. sp.*

Pustules small, very numerous, generally crowded and seriately placed; perithecia four to ten, nestling in the inner bark; ostiola short, crowded, quadrisulcate, black; spores crowded, cylindrical, curved, obtuse, slightly colored, .0004′ long.

Dead elm branches. Greenbush. May.

On the smaller twigs the pustules are more scattered and not arranged in lines.

CUCURBITARIA BERBERIDIS *Gr.*

Dead stems of barberry, *Berberis vulgaris*. Buffalo. December. *Clinton.*

LOPHIOSTOMA OBTECTUM *n. sp.*

Perithecia numerous, immersed, slightly elevated, covered by the epidermis which is pierced by the narrow compressed ostiola; asci cylindrical or clavate; spores variable, crowded or biseriate, rarely uniseriate, at first pale, subacute and one to three-septate, then obtuse, oblong or subfusiform, five or six-septate, colored, .001′–.0014′ long, usually constricted at the septa and occasionally with longitudinal septa.

Dead branches of prickly ash, *Xanthoxylum Americanum*. Bethlehem. July.

Apparently allied to *L. bicuspidata* Ck., but I can detect no hyaline beaks at the extremities of the young spores.

SPHÆRIA (VILLOSÆ) CLINTONII *n. sp.* (Plate II, figs. 19–23.)

Perithecia very small, .005′–.006′ broad, subglobose, gregarious, black, clothed with erect, black, bristly hairs; spores fusiform, multinucleate, then five to seven-septate, colorless, .0016′–.0018′ long.

Decaying wood. Alden. November. *Clinton.*

Related to *S. scopula* C. & P., from which it differs in its smaller perithecia, and broader spores with fewer septa.

SPHÆRIA XESTOTHELE *B. & C.*

Birch bark. Oneida. *Warne.*

SPHÆRIA (DENUDATÆ) EXIGUA *C. & P.*

Perithecia subgregarious, small, .013′ broad, globose, sometimes collapsed, smooth, shining, black, papillate; asci clavate or cylindrical; spores elliptical, binucleate, then one to three-septate, hyaline, .0006′–.0007′ long, .0003′ broad.

Decaying wood. Richfield Springs. July. *Clinton.*

SPHÆRIA CLASTERIUM *B. & C.*

Bark of *Spiræa opulifolia*. West Albany. October.

The spores in our specimens as well as in those received from Dr. Curtis are colored, .0005'–.0006' long, with a long colorless appendage at each end.

A non-ascigerous state occurred in May in the same locality. The perithecia and spores were the same, but I could detect no asci.

SPHÆRIA (OBTECTÆ) SPHÆRELLULA *n. sp.*

Perithecia minute, scattered or seriately placed, covered by the epidermis which is at length ruptured; asci broad, obtuse, gradually narrowed above, suddenly contracted at the base; spores crowded, fusiform, uniseptate, hyaline, .0005'–.0006' long.

Dead bleached twigs of striped maple, *Acer Pennsylvanicum*. Catskill Mts. June.

The asci imitate in form those of some species of Sphærella.

SPHÆRIA (CAULICOLÆ) EXERCITALIS *n. sp.*

Perithecia minute, crowded, arranged in long lines, at first covered by the epidermis which at length is ruptured in long chinks; ostiola prominent, subcylindrical, blunt or subacute; asci-subcylindrical; spores oblong or subfusiform, quadrinucleate, colorless, .0005' long.

Dead stems of herbs. Catskill Mts. June.

The species is remarkable for the long lines of perithecia and the prominent ostiola which are suggestive of lines of armed men.

SPHÆRIA (CAULICOLÆ) VIRIDELLA *n. sp.*

Perithecia small, gregarious, seated on a greenish spot, covered by the epidermis which is ruptured by the minute ostiola; asci cylindrical; spores oblong-fusiform, sometimes curved, triseptate, greenish, .001' long, the third cell from the base swollen.

Dead stems of melilot. Bethlehem. September.

The marked feature of the species is the greenish color of the spot and of the spores. The latter resemble those of *S. subconica* C. & P., except in color.

SPHÆRIA (CAULICOLÆ) SCAPOPHILA *n. sp.* (Plate II, figs. 24–27.)

Perithecia minute, subglobose, scattered, covered by the epidermis which is ruptured by the minute perforated ostiola;

asci cylindrical; spores crowded or biseriate, subcylindrical, yellowish, .001′–.0012′ long, seven-septate, one apical and three basal cells longer than the others.

Dead scapes of the pitcher plant, *Sarracenia purpurea*. Adirondack Mts. August.

SPHÆRIA (CAULICOLÆ) ONOSMODINA *P. & C. n. sp.*

Perithecia numerous, minute, at first covered by the epidermis, then exposed, depressed, black; ostiola pierced; asci cylindrical; spores crowded or biseriate, oblong-elliptical, uniseptate, colorless, .0006′–.0007′ long, the cells usually unequal.

Dead stems of *Onosmodium Carolinianum*. Buffalo. June. *Clinton*.

SPHÆRIA HERBARUM *Pers.*

Dead stems of *Scirpus validus*. Buffalo. June. *Clinton*.

SPHÆRELLA VACCINII *Ck.*

Fallen leaves of *Vaccinium corymbosum*. Center. May.

SPHÆRELLA IMPATIENTIS *P. & C. n. sp.*

Perithecia abundant, minute, black; asci subcylindrical; spores crowded, oblong or lanceolate, uniseptate, usually quadrinucleate, .0005′ long.

Living or languishing leaves of touch-me-not, *Impatiens fulva*. Buffalo. *Clinton*. Adirondack Mts. June to August.

PYRENOPHORA PHÆOCOMES *Fr.*

Dead grass. Sandlake. June.

(5.)

REMARKS AND OBSERVATIONS.

VIOLA SELKIRKII *Pursh.*

Oneida. According to Mr. Warne's observations the flowering period of this plant continues considerably longer than the time indicated in Paine's Catalogue.

DROSERA LONGIFOLIA *L.*

A dwarf form, bearing but a single terminal flower, occurs at Calamity Pond, Adirondack Mts.

RHUS COPALLINA *L.*

Green Island and Center.

RHUS VENENATA *DC.*

Not uncommon in swampy places about Albany. It is generally supposed that the poisonous properties of this plant are to be dreaded only while the tree is living, but several cases have been reported to me in which persons were severely poisoned from using the wood as fuel.

UTRICULARIA RESUPINATA *Green.*

Shallow water along the shores of Lake Jimmy and Lake Sallie, Adirondack Mts. August.

ATRIPLEX PATULA *L.*

This is evidently spreading and becoming quite common about Albany.

PINUS RESINOSA *Ait.*

Portage. *Clinton.* A beautiful grove of young trees of this species occurs at Long Lake, Hamilton county. I have seen it at Center, in Sandlake, on the Catskill and the Helderberg mountains and in several places in the northern counties where it is by no means rare. The cones, so far as I have observed, are not always deciduous after the falling of the seed, nor are they terminal except when quite young, the prolongation of the branch soon rendering them lateral. Frequently two and sometimes three generations of fully developed cones may be seen on a branch at one time. The species may be separated from *Pinus mitis* by the absence of prickles on the cone scales and by the longer leaves which occur only in pairs.

PINUS BANKSIANA *Lambert.*

Having compared southern specimens of *Pinus inops* Ait. with the New York specimens formerly reported as *P. inops*, I am satisfied that the latter should be referred to *P. Banksiana*,

notwithstanding the presence of prickles on the cones. In these specimens the cones are one to one inch and a half in length, and the prickles are very short, weak and obscure, and on some of the scales are wanting. In the southern specimens the cones are two inches in length and the prickles are stout and very distinct on all the scales. The leaves in both are of the same length, but less dense in the southern specimens.

It is possible that *P. inops* and also *P. mitis*, which Dr. Torrey reported, on the authority of Michaux, as occurring near Albany, may occur in the southern part of the State or on Long Island. At present we can claim positively only the four species, *P. Strobus*, *P. rigida*, *P. resinosa* and *P. Banksiana*. The last one is not known to me to occur anywhere in the State except in Essex county where it was first detected by *Dr. G. T. Stevens*.

The four New York species may be tabulated in such a way as to be easily identified by any one possessing a branch bearing either leaves or cones ; thus,

LEAVES.

Five leaves in a cluster.....	White Pine,	Pinus Strobus *L.*
Three leaves in a cluster.....	Pitch Pine..	Pinus rigida *Mill.*
Two leaves in a cluster, 3-6 inches long.....	Red Pine...	Pinus resinosa *Ait.*
Two leaves in a cluster, 1-2 inches long.....	Scrub Pine..	Pinus Banksiana *Lamb.*

CONES.

Cones cylindrical, scales unarmed ...	Pinus Strobus *L.*
Cones ovate conical, scales tipped with a stout prickle.....	Pinus rigida *Mill.*
Cones ovate-conical, scales unarmed..	Pinus resinosa *Ait.*
Cones oblong-conical, usually curved, prickles none or weak.....	Pinus Banksiana *Lamb.*

SPARGANIUM MINIMUM *Bauhin.*

This rare species occurs in a pond near Newcomb, Essex county.

POTAMOGETON NATANS *L.* VAR. PROLIXUS *Koch.*

Lake Sanford, Essex county, with the normal form. The stem is much prolonged beyond the insertion of the peduncle which thus becomes lateral.

SMILAX HISPIDA *Muhl.*

In a large swamp south of Catskill. No fertile plants were found.

ELEOCHARIS ROBBINSII *Oakes.*

Lake Harris and Lake Jimmy, Essex county. At the latter lake it is associated with *Utricularia resupinate* and *Myriophyllum tenellum.* I have recently received these three species from Long Island.

SCIRPUS SUBTERMINALIS *Torr.*

Lake Harris and Lake Jimmy. The former lake affords a variety of water plants, including *Brasenia peltata, Nymphæa odorata, Nuphar advena, N. Kalmiana, Potamogeton natans, P. Claytonii, P. perfoliatus* and *P. pectinatus.*

SCIRPUS PAUCIFLORUS *Light.*

Newcomb. July.

ERIOPHORUM GRACILE *Koch.*

Mud Pond near Long Lake. July.

AGARICUS DETERSIBILIS *Pk.*

I find that this name is preoccupied and must therefore be changed. I would substitute for it *Agaricus erinaceëlus* Pk.

AGARICUS JOHNSONIANUS *Pk.*

This species occurred the past season in the original locality. I had not seen it till then since its discovery in 1869.

AGARICUS (CREPIDOTUS) VERSUTUS *n. sp.*

Pileus at first resupinate, then reflexed, sessile, thin, pure white, covered by a soft downy villosity, the margin incurved; lamellæ rather broad and subdistant, terminating in an eccentric point, rounded behind, pale, then ferruginous; stem none; spores ferruginous-brown, subelliptical, .0004′ long.

Plant gregarious, 4′–10′ broad.

Much decayed half-buried wood, vegetable mold and even rocks.

This plant was reported under the name *A. chimonophilus* B. & Br., but it is evidently a distinct species. It loves very damp shaded places, frequently growing in cavities and on half buried wood, as if avoiding the light. The villosity is of a peculiar soft and delicate character and is easily destroyed by handling the specimens.

CORTINARIUS COMMUNIS *Pk.*

The spores of this plant have a dull brownish tinge, unlike those of true Cortinarii and much like those of some species of Pholiota. I have also found it growing from buried pine chips,

another point of affinity with Pholiota. Still, the absence of an annulus and the arachnoid character of the veil seem to forbid its reference to this subgenus.

PANUS DORSALIS *Bosc.*

The form that occurs here does not well agree with the description of the species. It has no stem and is of a buff or pale-yellow color. The cuticle does not break up into "floccose scales," but the pileus is strigose-hairy, especially toward the margin. The spores are of a beautiful fleshy-pink color like the lamellæ of young *Agaricus campestris*. It grows on beech and birch. I have not found it on pine. If the type is accurately described, our plant ought at least to be considered a distinct variety.

PANUS OPERCULATUS *B. & C.*

It is not rare on alder trunks and branches, but the veil or operculum is generally very fugacious, so that it is rarely seen except in very young plants.

LENZITES SEPIARIA VAR. POROSA.

This remarkable variety was detected at Long Lake, in Hamilton county. The whole hymenium is porous so that the plant might easily be taken for a species of Polyporus. All the specimens found on a single pine trunk were of this character.

LENZITES COOKEI *Berk.*

The opinion has somewhere been expressed that *Dædalea confragosa* and *Trametes rubescens* are one species. I am disposed not only to adopt this opinion, but also to add to these synonyms *Lenzites Cookei*, *L. Cratægi*, *L. proxima* and possibly *L. Klotzschii*. Excepting the last one, of which I have seen no diagnosis, the descriptions of these so-called species are all applicable to a single fungus common with us. Neither description covers all the forms of the fungus, each is applicable to one or another of its forms. Indeed, so wonderfully variable and comprehensive is this *L. Cookei*, of which scarcely more than a two-line description was given, that not only does it exhibit all the essential characters of the five species named, but its hymenium, utterly regardless of the generic limitations of the books, assumes the hymenial characters of four genera even, viz.: Lenzites, Dædalea, Trametes and Polyporus. A species so comprehensive in its characters certainly deserves a more extended notice than any yet given to it.

It generally grows singly and stemless, but in rare instances I have seen it clustered and with a stem-like base. When growing upon large trunks, the pileus is nearly semiorbicular;

but when growing upon small trunks or branches, which seem to be a favorite habitat, and which it partly surrounds or clasps by its base, it becomes somewhat reniform. Sometimes it is quite orbicular, in which case it usually occurs on the under side of a branch to which it is attached by its vertex, or on the upper side to which it is attached by an eccentric or the central point of the hymenium. It is normally and repeatedly zonate and more or less sulcate, with the zones usually quite narrow and not differing very much in color from the general hue of the pileus. Slight radiating rugæ or elevations are generally present, and these, in passing over the furrows, sometimes render the surface rough or scabrous. This roughness is occasionally increased to such an extent that the surface becomes very uneven, especially toward the base. Not very rarely a kind of tough appressed and at length hardened and glabrated tomentum overspreads a part or the whole of the pileus and thus conceals to a greater or less extent the zones and radiations. This coating can sometimes be separated from the pileus in scales or flakes like a kind of crust. It is most often limited to the basal or central portions of the pileus. Its unequal distribution gives a rough and unnatural appearance to the plant. In some specimens the pileus is dull and opaque, in others it is smooth and shining. In size it occurs from half an inch to three and a half inches in diameter. The substance is usually rather thin, sometimes much thinner than the hymenium. The upper surface is plane or slightly convex, though specimens are not wanting in which the pileus is much thickened behind so that it approaches an ungulate form. I have seen it in different individuals both umbonate and depressed at the base, but these are rare and exceptional forms. In color there is considerable diversity, some specimens being whitish, or gray, others having a dark reddish-brown or chestnut color. Between these extremes there is a great variety of intermediate hues, but a kind of pallid wood-color, more or less tinged with rufous or cervine hues, prevails. The thin margin is usually concolorous, but sometimes in pale specimens it is more highly colored than the rest. Occasionally the whole plant assumes a ruddy hue in drying. The substance has a color similar to that of the surface of the pileus, but in dark specimens it is a little paler.

The hymenium varies if possible more than the hymenophore. There are four typical forms which for convenience may be called *lenzitoid*, *dædaleoid*, *trametoid* and *polyporoid*. In the first the dissepiments are lamellæ, here and there forked or dichotomously branched and sometimes slightly anastomosing, especially at the base. Such specimens would be referred to *Lenzites*. In the second the pores are unequal, some of them elongated and flexuous or labyrinthiform. Such specimens belong to *Dædalea*. In the third, rotund and straight elongated pores are intermingled and generally arranged in a radiating manner. These belong to *Trametes*. In the fourth the pores

are equal, or nearly so, and rotund or subrotund. So far as the external characters are concerned, these would be referred to the genus *Polyporus*. Specimens representing all these forms are before me as I write, and yet I can only believe that they are all forms of one species. For besides these marked types all kinds of intermediate connecting links occur among the scores of specimens that I have collected from various localities. What shall we say of the generic distinctions that are thus swept away by a single species? In which genus shall we place our protean plant? But its characters are not yet fully recorded. In the fresh growing state the dissepiments are thick obtuse and covered with a whitish pruinosity which gives the hymenium a whitish or cinereous appearance, but with advancing age this pruinosity disappears, the dissepiments become thinner and the color becomes darker, sometimes even darker than the surface of the pileus. They at last become toothed or lacerated and lamellated, so that what at first was *trametoid* often in old age becomes *lenzitoid*. If a horizontal section of such a lenzitoid hymenium be made it will be found that near the hymenophore the hymenium is still trametoid, and that there the dissepiments are still thick and firm and the pores distinct. The surface of the hymenium varies from slightly concave to very convex. Most often it is nearly plane or somewhat sloping or deepened toward the base. Not infrequently it is slightly decurrent at the base.

I have found the plant growing on oak, willow, birches and alders. It matures in autumn.

Such are the prominent characters of this remarkable fungus, which probably includes at least five so-called species. Three of these are described as being, sometimes at least, radiate-rugulose or radiate-striate, and always zonate. Another is described as scabrous and subzonate. These characters are present in our plant. So also are the various modifications of the hymenium which determine the three genera to which these five supposed species have been referred. The texture ascribed to them all is essentially the same and the special features of each are exhibited in one or another of the various forms of our plant. I would therefore group the following as forms of one species so far as can be ascertained from the published descriptions:

Dædalea confragosa Pers. which is represented by forms of our plant having a scabrous somewhat zoned pileus of a reddish-brown color and a dædaleoid hymenium.

Our specimens exhibit these characters combined, except the color which is paler.

Trametes rubescens A. & S. which is represented by forms that assume the ruddy color and have the trametoid hymenium.

We have such specimens.

Lenzites Cratægi Berk. which is represented by forms having a shining pileus attached by the vertex and having a trametolenzitoid hymenium.

Our specimens illustrate this also with the bare exception that the pileus is not shining.

Lenzites Cookei Berk. which is represented by forms with the pileus of a cervine hue and with a trameto-lenzitoid hymenium. Our specimens of course accord with this since we have those from which the types were taken.

Lenzites proxima Berk. should also be added to this list of supposed synonyms. I have a single specimen which accords very well with the description of that plant, but it is really only a form of the same protean fungus with the thin flattened pileus completely overspread by the peculiar tomentum previously described.

Also the form with the polyporoid hymenium agrees remarkably well with a specimen received from Dr. Curtis and labeled by him "*Lenzites Klotzschii* Berk." Of this species I have seen no description.

The form with the purely lenzitoid hymenium coincides to a great extent with the description of *Lenzites tricolor* Fr., but the pileus is not "gibbous at the base" nor "scabrous-tomentose," neither does it agree in color, so that the two are perhaps distinct, though my Curtisian specimens of L. tricolor are clearly a form of this protean fungus.

Another remarkable form which corresponds to no description that I have seen has the pileus plane or depressed above with the hymenium very decurrent and wholly porous. The pileus is sometimes so much reduced that the whole plant appears like a pulvinate mass of pores. The pores are much smaller in this than in any other form that I have seen. The whole plant has a singular deformed appearance utterly unlike any of the other forms, and yet no one familiar with the various aspects of the species would think of separating this from the others.

That my views of the synonymy of the various forms of this plant will prove to be well founded I have no doubt, and that they will in that case render necessary the application of some single name to the species and a recasting or modification of the present characters of the genera Lenzites, Dædalea and Trametes is evident. Doubtless the oldest specific name "*confragosa*" should be retained, no matter in what genus the plant may ultimately be placed, although some such name as "*variabilis*" might be more appropriate and expressive. The other specific names might be retained to designate their respective forms as varieties. Thus the form known as *Trametes rubescens* would become *Dædalea confragosa* var. *rubescens*.

BOLETUS CLINTONIANUS *Pk.*

This rare species, heretofore found in one locality only, was detected the past season at Center, near Albany, where it was growing in company with *Boletus ampliporus*. The recurrence of fungi after long intervals and especially in widely

separated localities is an interesting and remarkable feature in these singular plants.

POLYPORUS NIGROPURPURASCENS *Schw.*

A resupinate form was found on elm in Bethlehem. In some of these specimens the hymenium was much paler than is usual in this species. The pores are seated on a thin but tough elastic membrane which is separable from the substance of the pileus.

STEREUM BALSAMEUM *Pk.*

The hymenium in this becomes red or blood-stained where wounded as in *S. sanguinolentum*. Its general color is darker than in that species.

STEREUM PURPUREUM *Fr.*

I find this a very variable plant. One form has the hymenium very pale with only a slight purplish tint. Another has the pileus zoneless and when moist it is darker than when dry.

CORYNEUM CLAVÆSPORUM *Pk.*

This proves to be the same as *Exosporium Tiliæ* Lk. I have never been able to find it with flocci and therefore doubt if it should be referred to the genus Helminthosporium as some authors think.

PUCCINIA HIERACII *Mart.*

Mr. M. Ruger sends specimens of a Puccinia found on leaves of hawkweed, at Woodhaven, L. I., which should perhaps be referred to this species, but I fail to find any good mark of distinction between it and *P. variabilis*.

PUCCINIA AMPHIBII *Fckl.*

This is now regarded as distinct from *P. Polygonorum*, and our specimens of Puccinia on leaves of *P. amphibium* should be referred to it.

USTILAGO URCEOLORUM *Tul.*

This occurs in the Adirondack region on *Carex stricta*, *C. stellulata*, *C. crinita*, *C. utriculata* and *C. oligosperma*.

TRICHOBASIS HOWEI *Pk.*

I would change this name to *Uromyces Howei* Pk. since I find that the pedicels, though very short and obscure, are permanent.

ÆCIDIUM PYROLATUM *Schw.*

This seems to be one of the connecting links between Æcidium and Uredo. Leaves affected by it are more erect than the others and have a pale sickly appearance, so that it is not difficult, in looking at a patch of the round leaved Pyrola, to tell at a glance what leaves are affected by the fungus.

ÆCIDIUM EUPHORBIÆ *Pers.*

This species occurs quite commonly some seasons on *Euphorbia maculata* in company with *Uromyces Euphorbiæ*. The branches whose leaves are affected by it are more erect than the others and more slender in their mode of growth.

NECTRIA PULICARIS *Tul.*

The spores in this species are described in the Handbook of British Fungi as "elliptical or pyriform." In the fungus inhabiting old corn-stalks and referred by some botanists to this species, the spores are oblong-fusiform.

XYLARIA DIGITATA *Grev.*

A Xylaria occurs quite frequently in our woods which has the smooth stem of this species and the short spores of *X. Hypoxylon*, thus ranking intermediate between the two. I am not fully satisfied whether it should be considered a distinct species or a variety of one or the other. The true *X. digitata* is quite rare in our State.

RHYTISMA LINEARE *Pk.*

This should be referred to the genus Hypoderma. It is, however, quite distinct from *H. nervisequum* to which one writer has referred it.

HYSTERIUM CLAVISPORUM *C. & P.*

I have never been able to detect the narrow linear orifice of the genus Hysterium in this species. In my opinion it belongs rather to the genus Dothidea. The same may also be said of *Hysterium Rimincola* Schw.

DOTHIDEA DALIBARDÆ *Pk.*

This rare species has occurred near Mud Pond in Hamilton county.

VALSA RUFESCENS *Schw.*

Mr. J. B. Ellis informs me that the specimens of this plant in the Schweinitzian Herbarium have simple cylindrical spores, .0003'–.0004' long. This would make it distinct from *V. aculeans* Schw. with which it has sometimes been confused.

SPHÆRIA COLLINSII *Schw.*

This occurs in the Adirondack region on leaves of *Spiræa salicifolia*. The branches in this as in *Amelanchier Canadensis* are swollen and distorted by the fungus.

VENTURIA MACULANS *Pk.*

I am satisfied that this is only a form of *Sphæria ditricha* Fr., a species which has been referred to Sphærella, though in my opinion it is a good Venturia.

The following list of parasitic fungi and their host plants is additional to the one given in the preceding report:

Puccinia orbicula *P. & C.*	inhabits	Solidago arguta *Ait.*
P. Hydrophylli *P. & C.*	"	Hydrophyllum Virginicum *L.*
P. Hieracii *Mart.*	"	Hieracium Canadense *Mx.*
Urocystis pompholygodes *Schl.*	"	Anemone nemorosa *L.*
Ustilago urceolorum *Tul.*	"	Carex stricta *Lam.* C. stellulata *L.* C. crinita *Lam.* C. utriculata *Boott.* C. oligosperma *Mx.*
Melampsora Epilobii *Fckl.*	"	Epilobium angustifolium *L.*
Uredo Cassandræ *P. & C.*	"	Cassandra calyculata *Don.*
Discella arida *Pk.*	"	Cassandra calyculata *Don.*
Sphæropsis minima *B. & C.*	"	Acer rubrum *L.*
Helminthosporium Absinthii *Pk.*	"	Artemisia Absinthium *L.*
Cladosporium depressum *B. & Br.*	"	Archangelica atropurpurea *Hoffm.*
Ramularia brunnea *Pk.*	"	Tussilago Farfara *L.*
Cystopus cubicus *Mart.*	"	Ambrosia artemisiæfolia *L.*
Cercospora Symplocarpi *Pk.*	"	Symplocarpus fœtidus *Salisb.*
C. leptosperma *Pk.*	"	Aralia nudicaulis *L.*
C. Ampelopsidis *Pk.*	"	Ampelopsis quinquefolia *Mx.*
C. Chenopodii *Fckl.*	"	Chenopodium album. *L.*
Peronospora pygmæa *Ung.*	"	Anemone nemorosa *L.* Hepatica triloba *Chaix.*
P. infestans *De By.*	"	Solanum tuberosum *L.*
P. alta *Fckl.*	"	Plantago major *L.*
P. effusa *Grev.*	"	Œnothera biennis *L.*
Erysiphe Liriodendri *Schw.*	"	Liriodendron Tulipifera *L.*
Sphærotheca Castagnei *Lev.*	"	Geranium maculatum *L.*
Epichloe typhina *Berk.*	"	Glyceria nervata *Trin.*
Sphæria Collinsii *Schw.*	"	Spiræa salicifolia *L.*
Sphærella Impatientis *P. & C.*	"	Impatiens fulva *Nutt.*

In closing this report, grateful acknowledgments are rendered to those botanists whose names already appear in the preceding pages for their kind coöperation in the investigation of our flora, and for their generous contributions of specimens.

When no name is added to the station or stations herein given the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January* 6, 1877.

EXPLANATION OF PLATES.

EXPLANATION OF PLATE I.

Agaricus graciloides Peck.

Page 42.

Fig. 1. Two plants of ordinary size; one showing the striatulations of the moist pileus.
Fig. 2. Vertical section of a pileus.
Fig. 3. Transverse section of a stem.
Fig. 4. Four spores × 400.

Helotium caricinellum Peck.

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Fig. 5. Piece of a sedge leaf bearing the fungus.
Fig. 6. Two plants magnified.
Fig. 7. Two paraphyses and an ascus containing spores × 400.
Fig. 8. Three spores × 400.

Peziza distincta Peck.

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Fig. 9. Piece of a culm bearing six plants.
Fig. 10. A plant with the mouth expanded, magnified.
Fig. 11. A plant with the mouth contracted, magnified.
Fig. 12. A paraphysis and an ascus containing spores × 400.
Fig. 13. Four spores × 400.

Excipula lanuginosa Peck.

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Fig. 14. Piece of a stem bearing several plants.
Fig. 15. A young unexpanded plant, magnified.
Fig. 16. An expanded plant, magnified.
Fig. 17. Three hairs × 400.
Fig. 18. Several spores × 400.

Peziza Warnei Peck.

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Fig. 19. Three plants of unequal size.
Fig. 20. A paraphysis and an ascus containing spores × 400.
Fig. 21. Three spores × 400.

Cladosporium depressum B. & Br.

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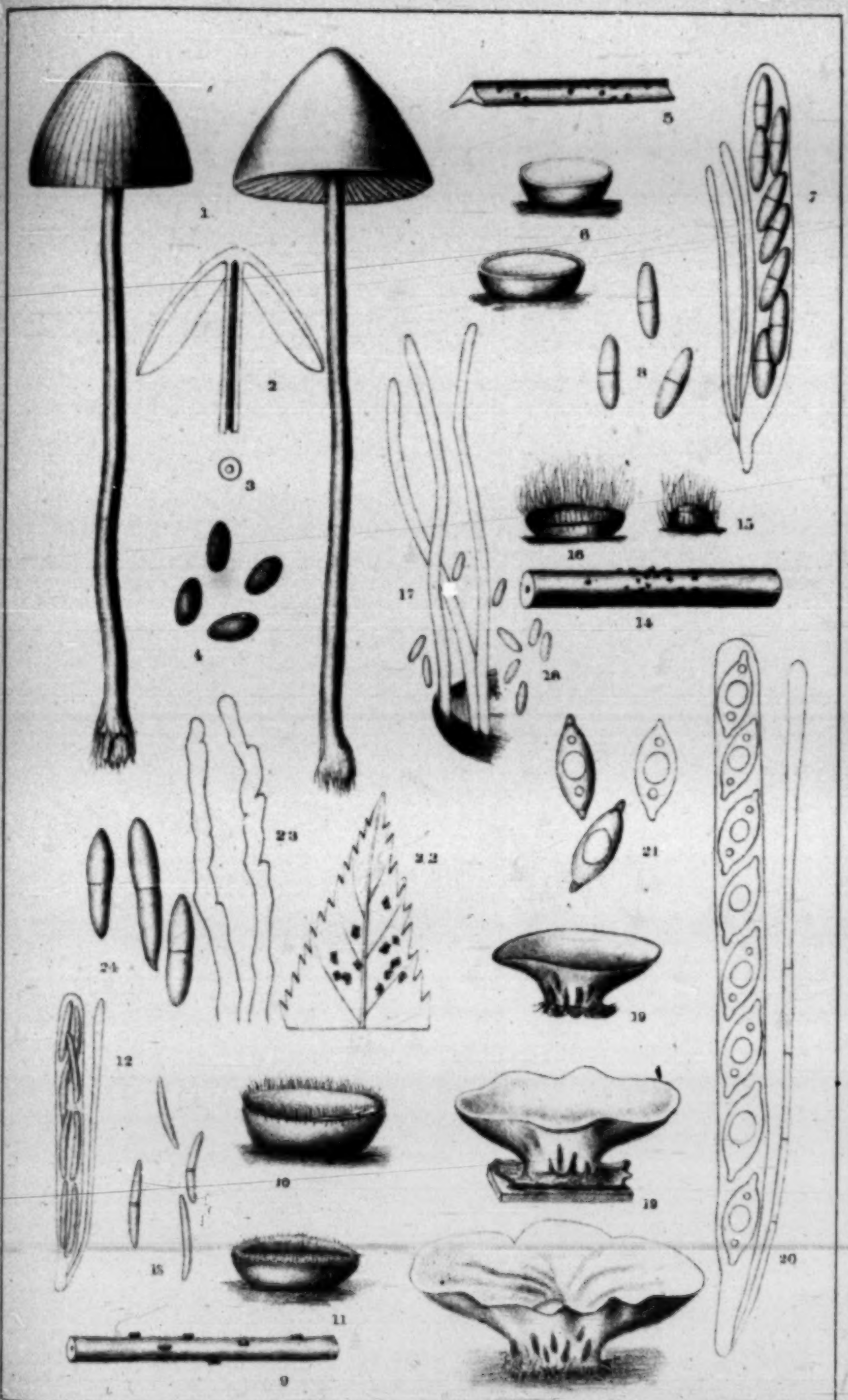
Fig. 22. Part of a leaf bearing the fungus.
Fig. 23. Two flocci × 400.
Fig. 24. Three spores × 400.



Lith. et Wood Engravers & Co. Albany N. Y.

EXPLANATION OF PLATE II.

Diachæa splendens Peck.

Page 50.

Fig. 1. Part of a leaf bearing several plants.
Fig. 2. Two plants magnified, one with part of the peridium removed to show the capillitium and penetrating stem.
Fig. 3. A fragment of the capillitium × 400.
Fig. 4. Four spores × 400.

Physarum albicans Peck.

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Fig. 5. A piece of bark bearing several plants.
Fig. 6. Two plants magnified, one with most of the peridium removed to reveal the capillitium and slightly penetrating stem.
Fig. 7. A fragment of the capillitium × 400.
Fig. 8. Four spores × 400.

Sphæronema aurantiacum Peck.

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Fig. 9. A piece of bark bearing the fungus.
Fig. 10. A piece of the matrix and two perithecia with globules at the apex, magnified.
Fig. 11. Six spores × 400.

Clavaria typhuloides Peck.

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Fig. 12. Piece of a stem bearing six plants.
Fig. 13. Two plants, magnified.
Fig. 14. Five spores × 400.

Physarum luteolum Peck

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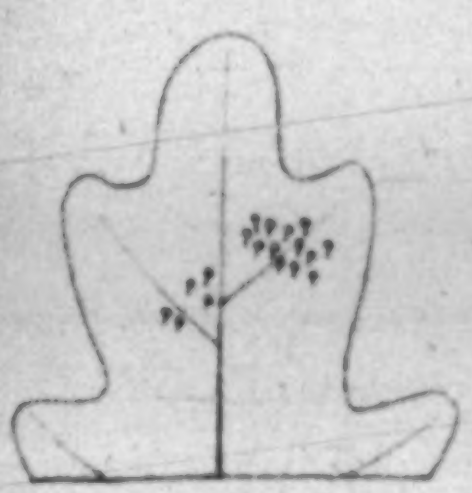
Fig. 15. A leaf bearing a cluster of the plants.
Fig. 16. A plant magnified, showing the stellately ruptured peridium.
Fig 17. A fragment of the capillitium × 400.
Fig. 18. Four spores × 400.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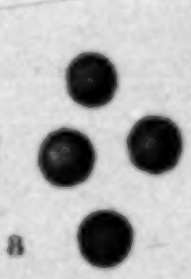
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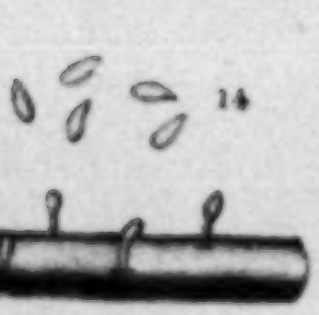
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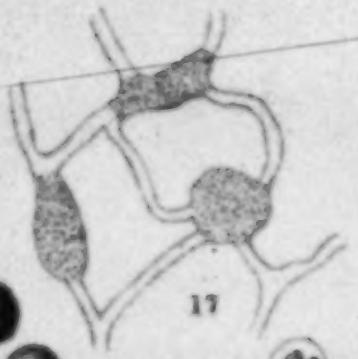
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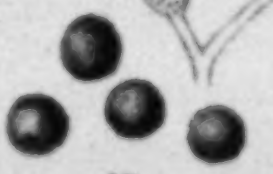
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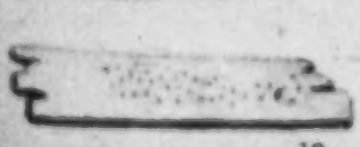
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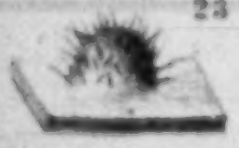
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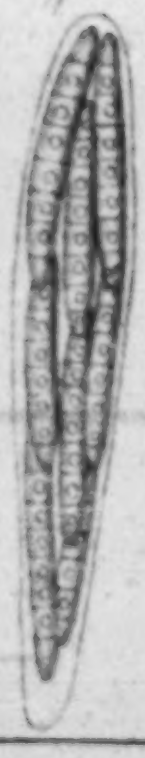
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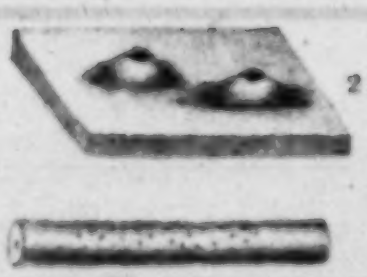
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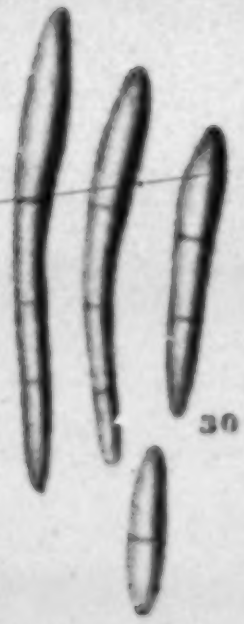
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PLATE II—(*Continued*).

Sphæria Clintonii Peck.

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Fig. 19. A piece of wood bearing the fungus.
Fig. 20. A perithecium, magnified.
Fig. 21. A seta of the perithecium × 400.
Fig. 22. An ascus containing spores × 400.
Fig. 23. Four spores × 400.

Sphæria scapophila Peck.

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Fig. 24. Piece of a scape bearing the fungus.
Fig. 25. A piece of the matrix with two perithecia, magnified.
Fig. 26. An ascus containing spores × 400.
Fig. 27. Three spores × 400.

Helminthosporium Absinthii Peck.

Page 54.

Fig. 28. A leaf bearing patches of the fungus.
Fig. 29. Two flocci × 400.
Fig. 30. Four spores × 400.

EXPLANATION OF PLATE III.

ASTRÆOSPONGIA MENISCUS Roemer.

Page 111.

Fig. 1. The convex upper side of an individual of somewhat irregular form.
Fig. 2. The lower side of another individual which is flat or slightly concave in the center
Fig. 3. Vertical section of the ordinary concavo-convex form.
Fig. 4. Lateral view of a specimen of ordinary size and form.
Fig. 5. Horizontal section magnified, showing the character and construction of the stars.
Fig. 6. A single star highly magnified.

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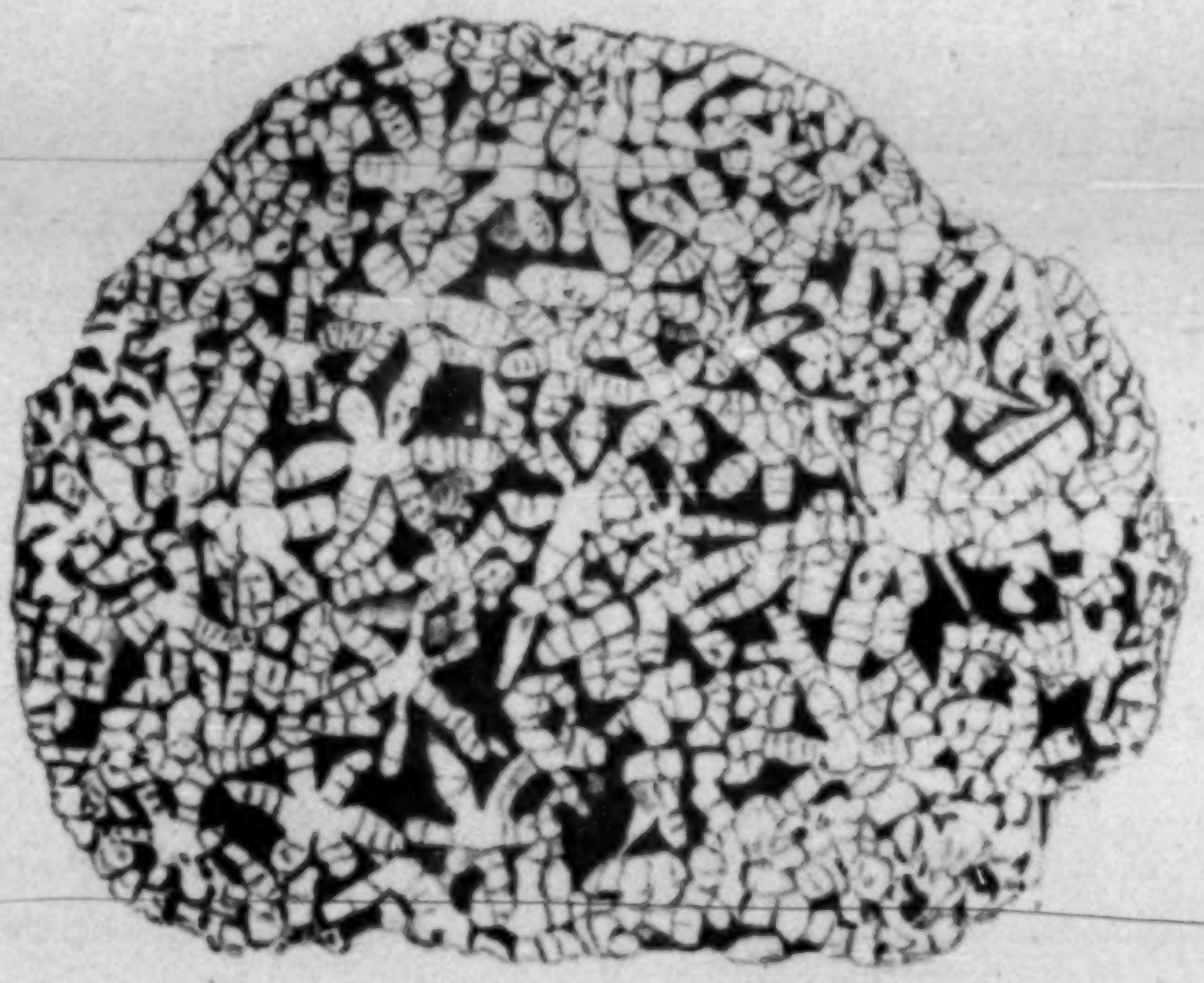

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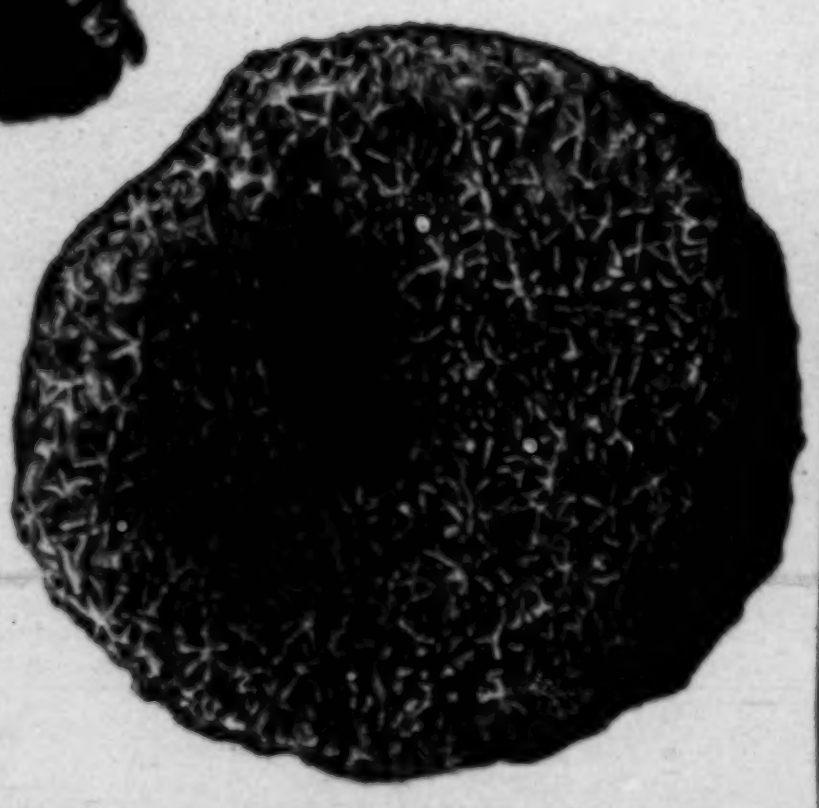

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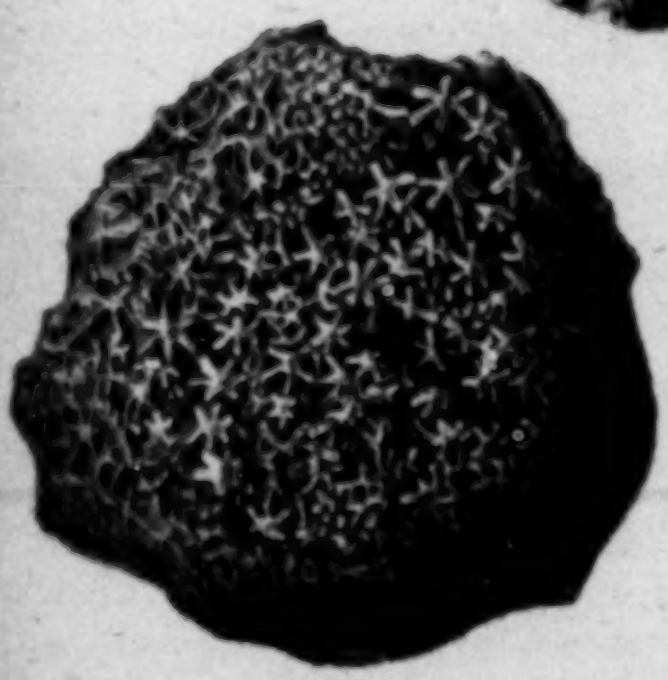


E. Emmons del. Ph. Ast. lith.

EXPLANATION OF PLATE IV.

PLUMALINA PLUMARIA Hall.

Page 265.

Fig. 1. A branching frond, which apparently has been imbedded while in a growing and vigorous condition; all the pinnulæ holding their position and attachment.

Fig. 2. Enlargement of a specimen showing a portion of the rachis denuded of its pinnulæ, except two at the upper extremity.

The apparent annulation is an exaggeration of the characters of the rachis and incorrectly represents the fossil.

Fig. 3. A frond which is somewhat dilapidated, apparently from maceration and decay, while lying upon the sea bottom. The midrib and pinnulæ show the attachment of numerous germs and young (some of them perhaps still in the form of eggs) of a Brachiopod of the genus RHYNCHONELLA or STENOCISMA. The smaller forms present merely flattened spheroidal or ovate bodies, which in farther development show slight evidence of inequalities of the surface, which in a later stage become obscure plications. The pinnulæ, from maceration, gradually fall off, leaving the rachis free, when these germs acquire a farther development, as shown in figures 4 and 5.

Fig. 4. A part of the rachis of a specimen denuded of its pinnulæ, and preserving the young brachiopod still attached. Natural size.

Fig. 5. A similar specimen where the rachis, has been bent and recurved upon itself, preserving the brachiopods still attached.

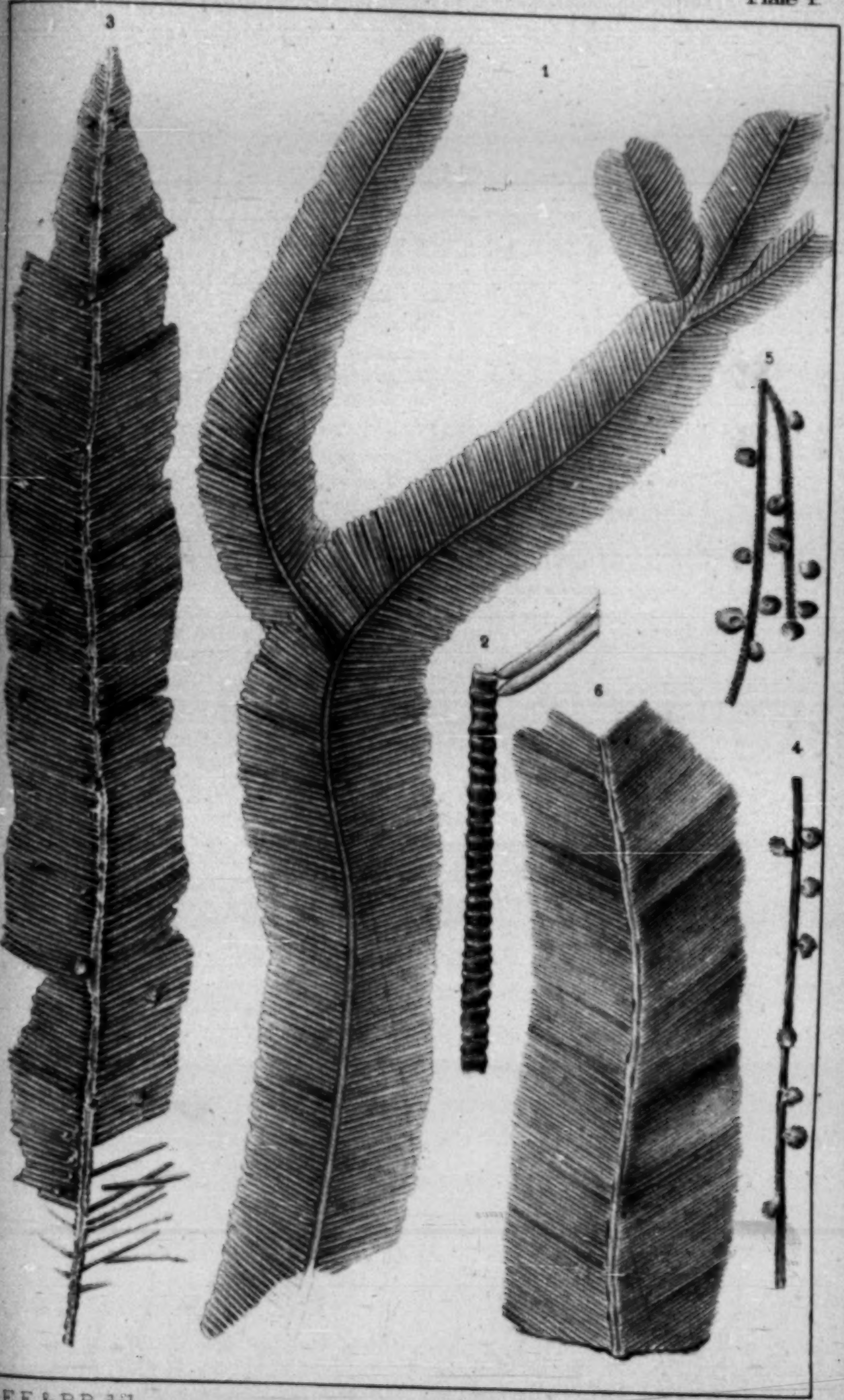
These specimens are from the shales of the Portage group.

PLUMALINA DENSA n. sp.

Fig. 6. A fragment of a frond, natural size, in which the rachis is less rigid and distinct, the pinnules narrower, proportionally longer, and more crowded than in the preceding form.

From the shales of the Hamilton group.

PLUMALINA



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1877

REPORT OF THE BOTANIST. 1877

S. B. WOOLWORTH, LL. D.,

Secretary of the Board of Regents of the University:

SIR—Since the date of my last report, specimens of one hundred and eighty-nine species of plants have been mounted and placed in the Herbarium of the State Museum of Natural History, of which one hundred and sixty-two were not before represented therein. Twenty-seven are improved specimens or new varieties not before represented. A list of the specimens mounted is marked (1).

Specimens have been collected in the counties of Albany, Columbia, Delaware, Essex, Rensselaer, Saratoga, Schoharie and Ulster. These represent one hundred and twenty-seven species new to the Herbarium, fifty-eight of which are believed to be new or hitherto undescribed. A list of the specimens collected is marked (2).

Specimens of twenty New York species, new to the Herbarium, and not among my collections of the past season, have been contributed by, or been obtained in naming specimens for, correspondents. These added to the collected species make the whole number of additions one hundred and forty-seven species. A list of contributors and their contributions is marked (3).

Previously unreported species and descriptions of new species are given in a part of the report marked (4). New stations of rare plants, remarks and observations will be found in a part marked (5). A few discoveries of special interest are herewith narrated.

It is a well-known fact that various insects are subject to the attacks of parasitic fungi, which prove fatal to them. The common house-fly is destroyed by one, the silk-worm by another, and the pupæ of different moths by others.

Another noticeable instance of this kind was observed the past season. It was found that the "Seventeen-year Locust," *Cicada septendecim*, which made its appearance in the Hudson River Valley early in the summer, was affected by a fungus. The first specimen of this kind that I saw was taken in New Jersey, and sent to me by Rev. R. B. Post. Examination revealed the fact that the Cicadas, or "Seventeen-year Locusts," in this vicinity, were also affected by it. The fungus develops itself in the abdomen of the insect, and consists almost wholly of a mass of pale-yellowish or clay-colored spores, which, to the naked eye, has the appearance of a lump of whitish clay. The insects attacked by it become sluggish and averse to flight, so that they can easily be taken by hand. After a time some of the posterior rings of the abdomen fall away, revealing the fungus within. Strange as it may seem, the insect may, and sometimes does live for a time even in this condition. Though it is not killed at once, it is manifestly incapacitated for propagation, and, therefore, the fungus may be said to prevent, to some extent, the injury that would otherwise be done to the trees by these insects in the deposition of their eggs. For the same reason, the insects of the next generation must be less numerous than they otherwise would be, so that the fungus may be regarded as a beneficial one. In Columbia county, the disease prevailed to a considerable extent. Along the line of the railroad between Catskill and Livingston stations many dead cicadas

were found, not a few of which were filled by the fungoid mass. As the insect makes its appearance only at intervals of seventeen years, and consequently will not be seen here again till 1894, it will scarcely be possible to make any further observations on it and its parasite for some time to come, yet it would be interesting to know how the fungus is propagated, or where its germs remain during the long interval between the appearance of two generations. Do the fungus germs enter the ground in the body of the larva, and slowly develop with its growth, becoming mature when it is mature, or do they remain quiescent on or near the surface of the ground, waiting to enter the body of the pupa as it emerges seventeen years hence? Or, again, is it possible that the fungus is developed annually in some closely related species as the "Harvest-fly," *Cicada tibicinaria*, and that it passes over from its usual habitat to the seventeen-year cicada whenever it has the oportunity? These questions are merely suggestive. They cannot yet be answered.*

While in the Adirondack region numerous clumps of alders were noticed that had their leaves nearly all skeletonized by the larvæ of some unknown insect. The larvæ were nearly black in color and scarcely half an inch long. They were seen in countless numbers feeding upon the leaves and threatening by their numbers, even if but half of them should come to maturity, in another year to completely defoliate the alders of that region. Upon looking under the affected bushes for the pupæ of the insect, in order, if possible, to have the means of ascertaining the species, what was my astonishment to find the ground thickly flecked with little white floccose masses of mold, and that each one of these tufts of mold was the downy fungoid shroud of a dead larva from the alders. Not a single living pupa could be found, but there were hundreds of dead and moldy larvæ killed without doubt by the fungus, which is nature's antidote to an over-production of this insect, and nature's agency for protecting the alders from utter destruction.

While on the way from Summit to Jefferson in Schoharie county, an apple tree was observed on which much of the fruit was discolored, and appeared as if beginning to decay. Some of the passengers in the stage remarked that they "never before knew of apples rotting on the tree." Some of the fruit was procured, and found to be affected by a fungus known to botanists by the name *Sphæropsis Malorum*, or apple Sphæropsis. It has been described as attacking "apples lying on the ground" in winter. Here was an instance in which the apples were attacked while yet on the tree, and that, too, as early as September. The apples attacked by the fungus are rendered worthless, and experiments recently made indicate that the disease is contagious, and may be communicated from one apple to another. For example, a perfectly sound apple was placed in a drawer with one that was affected by the fungus. In a few days the sound apple began to show signs of decay. Its whole surface had assumed a dull brown color as if beginning to rot. Two or three days later small pale spots made their appearance, and in the center of each there was a minute rupture of the epidermis. An examination of the substance of the apple in these pale spots revealed fungoid filaments that had permeated the cells of the apple. In two or three days more, numerous minute black pustules or papillæ had appeared. They were thickly scattered over nearly the whole surface of the apple. These constitute the Sphæropsis. When microscopically examined, each one of these black papillæ is found to contain several oblong pale fungus spores (seeds) supported on a short stem or foot-stalk, from which they soon separate. It would be well, therefore, wherever this fungus-rot makes its

* Since this was written, I have found in the Smithsonian Contributions, Vol. v, p. 53, a very good account of this fungus, by Dr. Leidy, of Philadelpia, but as no name was given to it, a name and description will be published.

appearance, to remove the affected apples at once from the presence of the others, whether they are on the tree or not. It is not enough to throw them on the ground by themselves, for this would not prevent the fungus from maturing and scattering its seeds. They should be buried in the ground, or put in some place where it will not be possible for the fungus to perfect itself and mature its seed. In this way the multiplication of the spores and the spread of the disease may be prevented.

The importance of the balsam fir, *Abies balsamea*, as an ornamental evergreen and as a source of balsam, renders a brief account of it and its enemies desirable.

It prefers wet or marshy soil, in cold, hilly, or mountainous regions, yet it is quite at home on comparatively dry upland, and will thrive in almost any soil. Its growth is rapid, but the tree seldom attains a very large size, the trunk rarely exceeding one foot in diameter at the base. Its usual diameter is six to eight inches, with a height of thirty to forty feet. It has a straight, gradually tapering trunk, giving off, at intervals of one or two feet, circles of branches, each one of which is a little shorter than the one next below it. This gives to the head or spray a very regular form, resembling in outline an elongated cone. The branches are given off at a wide angle with the trunk. They are generally a little ascending, but sometimes horizontal, or slightly deflexed. The branchlets are numerous, and given off with considerable regularity at each node, though scattering or adventitious branches and branchlets are of frequent occurrence, both on the trunk and branches. There are usually three regular branchlets at each node, two spreading laterally (one from each side of the branch), and one extending downwards and outwards beneath the branch. The leaves have been described in some botanical works as two-ranked. They are, however, scattered on all sides of the leading shoots and branchlets, and are more or less spirally arranged in their insertion; but those on the lower side of the branchlets are so curved and directed upwards and outwards that they appear, as a whole, to be somewhat two-ranked. They are flattened like the leaves of the hemlock, but are usually longer than those of either the hemlock or spruce. The lower surface is marked by a prominent midrib, and has a silvery or glaucous lustre, which, combined with the deep green of the upper surface, gives to the foliage a richness and beauty unequaled by that of any other of our evergreens. They remain upon the tree four or five years, so that all the shorter branches are clad with rich, dense foliage, throughout their whole extent. The cones or fruit of the balsam are produced on the upper and, consequently, on the shorter and younger branches. I have never seen them on branches below the middle of the tree. They stand erect on the branches, and in this respect differ essentially from the pendulous cones of the spruce and hemlock. On the very short branches, near the top of the tree, they are often so close together that they appear crowded or clustered. Before maturity, they are more or less tinged with bluish, or violet and purplish hues, but their beauty is generally impaired by copious exudations of resin. When quite young they are bristly with the long, slender points of the bracts, but these are at length nearly concealed by the overlapping scales. The cones have been described as three to four inches long, but I have never seen them so long. Their usual length with us is one and a half to two and a half inches. Sometimes, on the mountains, small trees four to six feet high bear a few cones. This tree, like the spruce, in some situations varies considerably from the typical form. In the Catskill Mountains I have seen it dwarfed to a diffusely spreading bush, similar to the ground hemlock. Near the summit of the high peaks of the Adirondacks it loses its beauty and thrift, and forms dense thickets in which the trunks are but

a few feet high, rapidly tapering, and coated with lichens; the branches are long, straggling, crooked, and interlaced, the whole forming a hedge-like mass through which anything larger than a rabbit would find great difficulty in passing. Starved by the lack of soil; stunted in its growth by the short, cold seasons; pressed down by the weight of accumulating snow; and bruised and cut back by masses of ice and frozen snow hurled against it by fierce blasts of wind, it can no longer attain its usual size and its natural symmetry of form. These mountain thickets of balsam are of interest to the botanist, because they show the hardy character of the tree, and its ability to live where few other trees can live; but they are the constant dread of tourists who visit the unfrequented peaks of the Adirondacks, for they are passed only with the utmost difficulty and labor.

The wood of the balsam is of little value for lumber owing to the small size of the tree. It contains resin and burns freely, but with a crackling noise. The smoke is very penetrating and irritating to the eyes. Near the summits of the mountains, however, it is almost the only available wood for camps and camp-fires. The bark of this tree furnishes the well-known "Canada balsam," a clear viscid resin of considerable repute in medicine and much used in mounting objects for the microscope. The resin is obtained from small vesicles or "blisters" in the bark. It is generally more abundant in the thrifty smooth-barked trees of low damp lands than in the stunted growths of the mountains. Because of the value of this tree as a producer of balsam, and because of its beauty and fitness to adorn parks and pleasure grounds, it ought to be cherished and preserved. But like its companion, the spruce, it has its insect and fungoid foes. While at Summit, in Schoharie county, in September, I noticed in a small grove of balsams that a dozen or more of the trees had recently been killed or were then dying. The leaves had nearly all changed their color, but for the most part yet remained on the trees. An investigation showed pretty conclusively that an insect was the cause of the death of the trees. A minute bark-mining beetle, both in its mature and in its larval state, was found between the bark and the wood. The beetle perforates the bark, excavates its furrow along the inner surface in a horizontal direction, and deposits its eggs along the sides of the furrow which is less than one-sixteenth of an inch in diameter. As soon as the eggs are hatched, the larvæ begin to mine furrows of their own at right angles to the original gallery, one part eating their way upward and another downward between the bark and the wood. These larval galleries are nearly parallel to each other, and are at their beginning so minute that they are scarcely perceptible to the naked eye; but as the larva advances in its course, it increases in size and the diameter of its furrow increases in like manner. The larvæ were found (in some instances transformed to the mature beetle) each in the larger end of its own furrow. It will be observed from the direction of the original furrow, how powerful an agent for mischief this minute beetle is. Its work is carried on in the most vital part of the tree. Three or four beetles attacking the trunk at or about the same height, and on different sides of the tree, would completely and effectually girdle it and destroy its life. Even a single beetle, by extending its furrow entirely around the trunk, would accomplish the same result, but no furrows were found thus extended. The length of the original furrows appeared to be less than four inches. The beetle itself is scarcely more than one line long, and belongs to the genus *Tomicus*. The species is probably undescribed. In the case of the spruce-destroying beetle more workers are necessary to kill the tree because the main furrows are excavated longitudinally or parallel to the axis of the trunk, while in the case of the balsam-destroying beetle the original furrow is excavated at right angles to this axis, and therefore cuts off or destroys the vital action over a much broader space.

The destruction of the balsams was not limited to the single grove in which it was first observed. In several places along the road between Summit and Jefferson, dead and dying balsams were noticed; but the affected trees were not very numerous, and it would not be a difficult matter, with prompt and united action, to arrest the progress of the mischief. If each man, on whose land the balsams grow, would, as soon as signs of the presence of the trouble are manifest, cut the affected trees, strip off the bark and burn it, he would, by so doing, destroy the colonies of larvæ, and prevent the further spread of the mischief. It is not at all probable that trees once attacked and showing signs of death can be saved, and it would be far better to cut them immediately than to allow them to remain as nurseries for these tiny marauders.

Four species of fungi are now known that attack the leaves of our balsams. None of these, so far as I am aware, actually kill the tree, but all of them necessarily detract somewhat from the vigor and the beauty of it. One of them, a kind of cluster-cup fungus, known as *Peridermium elatinum*, or fir-tree Peridermium, consists of minute whitish cups, filled with a deep yellow or orange-colored powder, which is the spores or seeds of the fungus. These cups burst forth from and occupy the whole of the lower surface of the leaf. This fungus is very thorough in its work, for every leaf on the affected branches is made to support its share of the cups. It detracts so much from the vigor of the leaves that they have a sickly, yellowish-green color, and do not attain more than half the size of healthy leaves. Still they are not killed at once. They remain on the tree during the summer, but fall sometime before the next succeeding crop of leaves is developed, for on the affected branches, only the leaves of a single season can be found, and these are always on the terminal shoots and always affected by the fungus. From this, it appears that the disease is in the branch, and bursts out and makes itself visible in each successive crop of leaves. The branches affected by it are deformed, irregular, contorted and massed together, forming that peculiar dense and intricate growth, commonly known as "crow's nest." It is not often that more than one or two branches of a tree, with the branchlets, are attacked, consequently it is an easy matter to cut off the affected branches and relieve the tree from this incumbrance.

Another similar fungus, the *Peridermium balsameum*, attacks the leaves in a sort of hap-hazard manner, affecting some here and some there. This fungus, like the other, consists of minute cups that burst forth from the lower surface of the leaves, but the cups are generally longer and cylindrical, and filled with a pale or whitish powder. The affected leaves in this case attain their normal size, but they lose their green color and become pale yellowish or almost white, and being scattered everywhere among the green leaves, they give a singular variegated appearance to the foliage. I have never met with this fungus except on small balsams in the Adirondack wilderness, and near Summit, and it is not very likely to prove detrimental to transplanted or cultivated trees.

In a grove of young balsams, near Summit, patches or groups of dead leaves were observed on many of the branches of some of the trees. An examination showed that these leaves were affected by two fungi, which, in some instances, were associated together in the same group of leaves, and even on the same leaf; in other cases each fungus occupied exclusively its own group of leaves. One of them is known to botanists by the name *Hypoderma nervisequum*, or nerve-following Hypoderma. It forms a black line along the midrib of the leaf, being more prominent and uniform on the lower surface. This thick black line or ridge at length ruptures along the center. It contains within a multitude of microscopic, nearly cylindrical, membranous sacks, each of which contains eight long narrow spores.

The other fungus, which does not appear to have been previously known, and to which I have given the name *Dermatea phyllophila*, or leaf-loving Dermatea, consists of minute shallow cups, which break forth from the lower surface of the leaf, rupturing the epidermis, and sometimes throwing off a little scale of it. These cups, when moist, are of a dingy-white color, but when dry are contracted, irregular, and of a darker hue. Like the preceding species, they contain many minute sacks and spores. Though these fungi kill the leaves that they attack, there is no evidence that they kill the trees, yet, if the attack should extend to all or nearly all the leaves on a tree at any one time, it is evident the life of the tree would be in danger.

(1.)

PLANTS MOUNTED.

Not new to the Herbarium.

Hamamelis Virginica *L.*
Claytonia Caroliniana *Mx.*
Rosa micrantha *Sm.*
Daucus Carota *L.*
Aster corymbosus *Ait.*
A. minor *L.*
A. simplex *Willd.*
Solidago squarrosa *Muhl.*
S. Canadensis *L.*
S. gigantea *Ait.*
Helianthus tuberosus *L.*
Ilex verticillata *L.*
Lycopus Virginicus *L.*
Potamogeton natans *L.*
Habenaria psychodes *Gr.*
Eleocharis Robbinsii *Oakes.*
Scirpus subterminalis *Torr.*
Eriophorum gracile *Koch.*
Carex Buxbaumii *Wahl.*
C. utriculata *Boott.*
Leersia oryzoides *Sw.*
L. Virginica *Willd.*
Festuca elatior *L.*
Panicum glabrum *Gaud.*
Andropogon scoparius *Mx.*
Adiantum pedatum *L.*
Aspidium acrostichoides *Sw.*

New to the Herbarium.

Trifolium hybridum *L.*
Lonicera Tartarica *L.*
Artemisia Absinthium *L.*
Hieracium aurantiacum *L.*
Datura Tatula *L.*
Smilax hispida *Muhl.*
Agaricus striatifolius *Pk.*
A. apertus *Pk.*
A. flavidellus *Pk.*
A. peltigerinus *Pk.*
A. conigenoides *Ellis.*
A. delicatellus *Pk.*
A. odorifer *Pk.*
A. subareolatus *Pk.*
A. striatulus *Fr.*
A. longistriatus *Pk.*
A. indecens *Pk.*
A. contrarius *Pk.*
A. lacrymabundus *Fr.*
Agaricus Candolleanus *Fr.*
A. limophilus *Pk.*
A. umbonatescens *Pk.*
A. arenulinus *Pk.*
A. polytrichophilus *Pk.*
A. graciloides *Pk.*
Cortinarius ophiopus *Pk.*
C. craticius *Fr.*
C. regularis *Pk.*
Marasmius praecutus *Ellis.*
Panus torulosus *Fr.*
Boletus viscosus *Frost.*
Polyporus dualis *Pk.*
P. nidulans *Fr.*
P. fragrans *Pk.*
P. albellus *Pk.*
P. connatus *Weinm.*
P. balsameus *Pk.*
P. obducens *Pers.*

Polyporus callosus *Fr.*
P. farinellus *Fr.*
Hydnum Weinmanni *Fr.*
Irpex sinuosus *Fr.*
I. fuscoviolaceus *Fr.*
I. obliquus *Fr.*
Radulum orbiculare *Fr.*
Phlebia merismoides *Fr.*
Thelephora speciosa *Fr.*
Hymenochæte spreta *Pk.*
H. agglutinans *Ellis.*
Corticium quercinum *Pers.*
C. lacteum *Fr.*
C. Sambuci *Fr.*
C. cæruleum *Fr.*
C. Martianum *B. & C.*
C. suffocatum *Pk.*
Cyphella griseopallida *Wein.*
Clavaria typhuloides *Pk.*
C. amethystina *Bull.*
Pistillaria coccinea *Cd.*
Tremella intumescens *Sow.*
Næmatelia encephala *Fr.*
Dacrymyces minor *Pk.*
Amaurochæte atra *A. & S.*
Physarum luteolum *Pk.*
P. albicans *Pk.*
Dischæa splendens *Pk.*
Trichia fallax *Pers.*
Perichæna irregularis *B. & C.*
Clathroptychium rugulosum *Wallr.*
Nidularia pulvinata *Schw.*
Leptostroma lineare *Pk.*
Phoma strobilina *P. & C.*
P. stercoraria *P. & C.*
Sphæronema Robiniæ *B. & C.*
S. aurantiacum *Pk.*
Sphæropsis Pennsylvanica *B. & C.*
S. minima *B. & C.*
S. Syringæ *P. & C.*
Diplodia thujina *P. & C.*
Excipula lanuginosa *Pk.*
Discella Canadensis *Pk.*
D. arida *Pk.*
Melanconium intermedium *Pk.*
Torula curvata *Pk.*
Septonema dichænoides *P. & C.*
Puccinia orbicula *P. & C.*
P. Hydrophylli *P. & C.*
Uredo Cassandræ *P. & C.*
Melampsora Epilobii *Fckl.*
Æcidium Saniculæ *Carm.*
Helminthosporium Absinthii *Pk.*
Macrosporium sarcinula *Berk.*

Cladosporium nodulosum *Cd.*
C. depressum *B. & Br.*
Ramularia brunnea *Pk.*
Cercospora Symplocarpi *Pk.*
C. Chenopodii *Fckl.*
Verticillium pulvereum *P. & C.*
Peronospora infestans *De By.*
Polyactis cana *Berk.*
Trichoderma viride *Pers.*
Dactylium sublutescens *Pk.*
Oidium fasciculatum *Berk.*
O. albipes *Pk.*
Capillaria Sphæriæ-typhinæ *Cd.*
Menispora ciliata *Cd.*
Zygodesmus pannosus *B. & C.*
Z. rubiginosus *Pk.*
Fusisporium rimosum *Pk.*
Erysiphe Liriodendri *Schw.*
Morchella bispora *Sor.*
M. semilibera *DC.*
M. deliciosa *Fr.*
Verpa digitaliformis *Pers.*
Peziza sulcata *Pers.*
P. Warnei *Pk.*
P. bicolor *Bull.*
P. myricacea *Pk.*
P. sulphurella *Pk.*
P. capitata *Pk.*
P. distincta *Pk.*
P. maculincola *Schw.*
P. chameleontina *Pk.*
P. deligata *Pk.*
P. Polygoni *Rehm.*
P. macrospora *Fckl.*
Helotium caricinellum *Pk.*
H. bryogenum *Pk.*
Dermatea carpinea *Fr.*
D. inclusa *Pk.*
Patellaria leptosperma *Pk.*
P. lignyota *Fr.*
Tympanis turbinata *Schw.*
Ascobolus viridis *Curr.*
A. crenulatus *Karst.*
Stictis cylindricarpa *Pk.*
Hysterium australe *Duby.*
H. Thuiarum *C. & P.*
H. Desmazierii *Duby.*
Glonium simulans *Ger.*
Hypomyces ochraceus *Tul.*
Hypoxylon suborbiculare *Pk.*
Dothidea Rimincola *Schw.*
D. episphæria *Pk.*
D. Caricis *Fr.*
D. Osmundæ *P. & C.*

Valsa leucoserabilis *Pk.*
Cucurbitaria Berberidis *Gr.*
Leptosteoma obtecta *Pk.*
Sphæria Clintonii *Pk.*
S. xestothele *B. & C.*
S. exigua *C. & P.*
S. Clasterium *B. & C.*
S. sphærelloides *Pk.*
Sphæria exercitalis *Pk.*
S. virens *Pk.*
S. scapophila *Pk.*
S. onosmodina *P. & C.*
S. herbarum *Pers.*
Sphærella Vaccinii *Ck.*
S. Impatientis *P. & C.*
Pyrenophora phæocomes *Fr.*

(2.)

PLANTS COLLECTED.

Solidago humilis *Pursh*
Potamogeton lonchitis *Tuckm.*
Salix purpurea *L.*
Graphis eulectra *Tuckm.*
Calicium curtum *T. & B.*
C. brunneolum *Ach.*
Siresiphon Crameri *Brugg.*
Agaricus cristatellus *Pk.*
A. fumescens *Pk.*
A. pinophilus *Pk.*
A. rubromarginatus *Fr.*
A. radicatellus *Pk.*
A. chrysophyllus *Fr.*
A. abscondens *Pk.*
A. septicus *Fr.*
A. albogriseus *Pk.*
A. micropus *Pk.*
A. undulatellus *Pk.*
A. rhodocalyx *Lasch.*
A. squarrosoides *Pk.*
A. limonellus *Pk.*
A. vermiffuus *Pk.*
A. paludinellus *Pk.*
A. lenticeps *Pk.*
A. hymenocephalus *Pk.*
A. camptopus *Pk.*
Coprinus macrosporus *Pk.*
C. rotundosporus *Pk.*
Cortinarius Copakensis *Pk.*
C. lapidophilus *Pk.*
Marasmius calopus *Fr.*
Boletus Satanus *Leur.*
Polyporus pallidus *Schulz.*
P. Weinmanni *Fr.*
P. planus *Pk.*
P. subiculosus *Pk.*
P. semitinctus *Pk.*
Trametes suaveolens *L.*
Solenia villosa *Fr.*
Hydnum sulphurellum *Pk.*
Mucronella calva *A. & S.*
M. aggregata *Fr.*
Craterellus dubius *Pk.*
Stereum sanguinolentum *A. & S.*
Cyphella sulphurea *Batsch.*
Clavaria fumigata *Pk.*
C. coryneides *Pk.*
Tremella lutescens *Pers.*
Guepinia Peziza *Tul.*
Hymenula olivacea *Pk*
Lycoperdon glabellum *Pk.*
L. calyptriforme *Berk.*
Physarum psittacinum *Ditlm.*
P. atrorubrum *Pk.*
P. ornatum *Pk.*
P. inæqualis *Pk.*
Badhamia affinis *R.*
Didymium eximium *Pk.*
D. angulatum *Pk.*
Chondrioderma difforme *Pers.*
Diachæa subsessilis *Pk.*
Comatricha æqualis *Pk.*
C. Friesiana *DeBy.*
C. pulchella *Bab.*
Lamproderma violaceum *Fr.*
Trichia scabra *R.*
T. inconspicua *R.*
Arcyria pomiformis *Röth.*
Lycogala flavofuscum *Ehr.*
Æcidium Pini *Fr.*
Septoria Waldsteiniæ *P. & C.*
S. Verbascicola *B. & C.*
Phyllosticta Loniceræ *Desm.*
Sporidesmium sicynum *Thum.*
Massospora cicadina *Pk.*
Ustilago Salvei *B. & Br.*

Phragmidium bulbosum *Fr.*
Isaria tenuipes *Pk.*
Stilbum rigidum *Pers.*
S. flavipes *Pk.*
Sporocybe abietina *Pk.*
Cladosporium graminum *Lk.*
Helminthosporium interseminatum
H. Hydropiperis *Thum.*
Botryosporium pulchrum *Berk.*
Aspergillus flavus *Lk.*
Fusidium canum *Pass.*
Peronospora simplex *Pk.*
Mucor caninus *Pers.*
M. ramosus *Bull.*
Peziza succosa *Berk.*
P. vulcanalis *Pk.*
P. sulphurea *Pers.*
P. viridicoma *Pk.*
P. brunneola *Desm.*
P. Osmundæ *C. & E.*
Helotium albopunctum *Pk.*
Dermatea carnea *C. & E.*
D. phyllophila *Pk.*
D. Xanthoxyli *Pk.*
Hæmatomyces orbicularis *Pk.*
Cenangium Cassandræ *Pk.*
Cenangium peziziodes *Pk.*
Tympanis acerina *Pk.*
Patellaria olivacea *Batsch.*
Phacidium brunneolum *Pk.*
Triblidium morbidum *Pk.*
Hypoderma nervisequum *DC.*
Rhytisma maximum *Fr.*
Hypocrea viridis *Tode.*
Hypoxylon xanthocreas *B. & C.*
Dothidea Epilobii *Fr.*
Valsa Cratægi *Curr.*
V. translucens *De Not.*
V. Xanthoxyli *Pk.*
Lophiostoma scelestum *C. & E.*
L. prominens *Pk.*
Massaria gigaspora *Desm.*
Sphæria pulchriseta *Pk.*
S. sorghophila *Pk.*
S. Typhæ *Schw.*
S. curvicolla *Pk.*
S. Gnomon *Tode.*
S. phellogena *B. & C.*
S. Crepini *West.*
S. Marciensis *Pk.*
Venturia Dickiei *De Not.*

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss S. P. Monks, Cold Spring, N. Y.

Viola pedunculata *T. & G.*
V. Nuttallii *Pursh.*
Claytonia perfoliata *Don.*
Ribes sanguineum *Pursh.*
Hosackia strigosa *Nutt.*
Astragalus trichocarpus *Gr.*
A. hypoglottis *L.*
Œnothera parvula *Nutt.*
Gilia tricolor *Benth.*
G. ciliata *Benth.*
G. Californica *Benth.*
G. androsacea *Steud.*
G. dianthoides *Endl.*
Plantago Patagonica *Jacq.*
Pellæa densa *Hook.*
Cystopteris fragilis *R. Br.*

Mrs. S. M. Rust, Syracuse, N. Y.

Aspidium spin. v. dumetorum
Onoclea sens. v. obtusilobata
Botrychium Lunaria *Sw.*
Botrychium ternatum *Sw.*
B. gracile *Pursh.*

I. C. Martindale, Camden, N. J.

Alyssum calycinum *L.*
Senebiera didyma *Pers.*
Viola tricolor v. arvensis.
Lechea major *Mx.*
Hypericum prolificum *L.*
Drosera long. v. densiflorum.

Drosera filiformis *Raf.*
D. rotundifolia *L.*
Brassica tenuifolia *Boiss.*
Lychnis diurna *Sibth.*
Melilotus parviflora *Desf.*
Senecio pentandrum *Ell.*
Heliotropium Europæum *L.*
Potentilla reptans *L.*
Silene inflata *Sm.*
Jussiæa repens *L.*
Senecio Jacobæa *L.*
Cacalia reniformis *Muhl.*
Linaria elatine *Mill.*
L. Spuria *Mill.*
Leonurus glaucescens *Bunge.*
Helmintha echioides *Gært.*
Heterotheca scabra *DC.*
Vigna glabra *Savi.*
Richardsonia scabra *St. Hil.*
Euphorbia hiberna *L.*
Gentiana angustifolia *Mx.*
Tribulus terrestris *L.*

N. L. BRITTON, New Dorp, N. Y.

Pinus mitis *Mx.*
Pinus inops *Ait.*

E. S. MILLER, Wading River, N. Y.

Barbarea præcox *R. Br.*
Segina apetala *L.*
Sperguiaria rub. v. campestris.
Lathyrus palustris *L.*
L. myrtifolius *Muhl.*
Lespedeza vio. v. sessiliflora.
Vicia Caroliniana *Walt.*
Eupatorium teucrifolium *Willd.*
Aster undulatus *L.*
A. lævis *L.*
Œnothera pumila *L.*
Œ. chrysantha *Mx.*
Galium circezans *Mx.*
Erigenia bulbosa *Nutt.*
Vaccinium corymbosum *L.*
Pyrola rotundifolia *L.*
Teucrium Canadense *L.*
Myosotis verna *Nutt.*
Plantago Virginica *L.*
Utricularia gibba *L.*
U. subulata *L.*
Potamogeton Oakesiana *Robbins.*
Lemna polyrrhiza *L.*
Lemna perpusilla *Torr.*
Sagittaria variabilis *Engelm*
Muscari racemosum *L.*
Eriophorum Virginicum *L.*
Fuirena squarrosa *Mx.*
Eleocharis obtusa *Schultes.*
E. melanocarpa *Torr.*
E. tricostata *Torr.*
Carex scoparia *Schk.*
C. polytrichoides *Muhl.*
C. stipata *Muhl.*
C. fœnea *Willd.*
C. stellulata *L.*
C. Pennsylvanica *Lam.*
C. granularis *Muhl.*
C. lanuginosa *Mx.*
C. hystricina *Willd.*
Festuca ov. v. duriuscula.
Glyceria nervata *Trin.*
Eragrostis reptans *Mx.*
Panicum verrucosum *Muhl.*
P. depauperatum *Muhl.*
Milleria herbatica *Pk.*

E. A. RAU, Bethlehem, Pa.

Discelium nudum *Brid.*
Æcidium hemisphæricum *Pk.*
Æ. porosum *Pk.*
Æ. Brandagei *Pk.*
Æ. abundans *Pk.*
Æcidium Bigeloviæ *Pk.*
Uromyces hyalinus *Pk.*
Leucythea speciosa *Pk.*
Sphæropsis Raui *Pk.*
Chætomium elatum *Kze.*

W. R. GERARD, New York, N. Y.

Glonium parvulum *Ger.*
Ailographum Pinorum *Desm.*
Hysterium hyalosporum *Ger.*
H. Cookeanum *Ger.*

Rev. H. WIBBE, Oswego, N. Y.

Drosera longifolia *L.*
Habenaria ciliaris *R. Br.*
H. leucophæa *Nutt.*
Houstonia pur. v. ciliolata.
Trillium erythrocarpum *Mx.*
Erythræa Centaurium *Pers.*
Scirpus Eri. v. cyperinus.
Rhynchospora macrostachya *Torr.*
Botrychium simplex *Hitch.*

Prof. P. A. PUISSANT, Troy, N. Y.

Carex panicea *L.*

L. M. UNDERWOOD, Syracuse, N. Y.

Scolopendrium vulgare *Sm.*
Asplenium Rutamuraria *L.*
Aspidium marginale *Sw.*
Cystopteris fragilis *Bernh.*

H. WILLEY, New Bedford, Mass.

Arthonia polymorpha *Ach.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Triticum caninum *L.*
Aspid. crist. v. Clintoniana.
Meliola Macowani *Thum.*
Melanconium Americanum *P. & C.*
Septoria Waldsteiniæ *P. & C.*
Vermicularia trichella *Grev.*
V. albomaculata *Schw.*
Puccinia spreta *Pk.*
Uromyces Trifolii *Fckl.*
U. polymorphus *P. & C.*
Uredo transversalis *Thum.*
Polyactis vulgaris *Lk.*
Peziza planodisca *P. & C.*
Sphæria cladosporiosa *Schw.*

C. C. FROST, Brattleboro, Vt.

Cortinarius Spragueii *B. & C.*
Russula compacta *Frost.*
Boletus Satanus *Lenz.*
Polyporus tomentosus *Fr.*
Clavaria arbori-similis *Frost.*
Michenera Artocreas *B. & C.*
Lycogala flavofuscum *Ehr.*
Sphæropsis Sumachi *Schw.*
Patellaria nigrocinnabarina *Schw.*
Hypoxylon marginatum *Fr.*
Diatrypella Frostii *Pk.*

J. B. ELLIS, Newfield, N. J.

Lenzites vialis *Pk.*
Sphæropsis Ribicola *C. & E.*
S. Alni *C. & E.*
Septoria stictica *Ellis.*
Septosporium maculatum *C. & E.*
Pestalozzia stellata *B. & C.*
Vermicularia compacta *C. & E.*
Sporidesmium hysterioideum *C. & E.*
S. polymorphum *Cd.*
S. aurantiacum *B. & C.*
Perisonia Azaleæ *Pk.*
Epicoccum scabrum *Cd.*
Fusisporium opisphæricum *C. & E.*
Clasterisporium caricinum *Schw.*
Cercospora concentrica *C. & E.*
C. grisea *C. & E.*
Peziza coccinella *Somm.*
P. fuscidula *Ck.*
P. ilicifolia *C. & E.*
P. bullata *Ellis.*
Hysterium subrugosum *C. & E.*
Colpoma Andromedæ *Duby.*
Stictis quercifolia *C. & E.*
S. fimbriata *Schw.*
Nectria microspora *C. & E.*
Dothidea tetraspora *B. & Br.*

Valsa rugiella *C. & E.*
V. obscura *Pk.*
Massaria epilasca *B. & C.*
Lophiostoma scelestum *C. & E.*
Sphæria salviæcola *C. & E.*
S. luteobasis *Ellis.*
S. vexata *C. & E.*
S. melanotes *B. & Br.*
S. minima *Awd.*
Sphæria microtheca *C. & E.*
S. orthoceras *Fr.*
S. tumulata *C. & E.*
S. soluta *C. & E.*
S. dissiliens *C. & E.*
S. surrecta *Ck.*
S. sepelibilis *B. & C.*
S. sculcata *Schw.*

H. A. WARNE, Oneida, N. Y.

Polyporus induratus *Pk.*
Lycoperdon giganteum *Batsch.*
Diatrype asterostoma *B. & C.*
Peziza Umbrorum *Fckl.*
P. gallinacea *Pk.*
Sphæria fimiseda *C. & N.*

B. D. GILBERT, Utica, N. Y.

Aspidium spinulosum *Desv.*
A. Boottii *Tuckm.*
Asplenium resectum *Sm.*
Cystopteris frag. v. dentata.

M. W. VANDENBURG, Fort Edward, N. Y.

Rhus aromatica *Ait.*
R. typhina *L.*
Solidago latifolia *L.*
Utricularia subulata *L.*
Pogonia affinis *Aust.*

G. S. WATKINS, Wilmurt, N. Y.

Polyporus Beatiei *Banning.*

G. T. FISH, Rochester, N. Y.

Impatiens fulva *Nutt.*
Polyporus Beatiei *Banning.*

C. DEVOL, M. D., Albany, N. Y.

Section of stem of Kalmia latifolia *L.*

P. C. BROWER, Albany, N. Y.

California hickory nuts.

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(4)

PLANTS NOT BEFORE REPORTED.

SOLIDAGO HUMILIS *Pursh.*

Gravelly bank at the outlet of Lower Ausable Pond, Adirondack Mountains. Aug.

The smaller heads, shorter flowers, whiter pappus and sharper serratures of the leaves, induce me to report this as a distinct species.

UTRICULARIA SUBULATA *L.*

Fort Edward. *M. W. Vandenburg.* Wading River, Long Island. *E. S. Miller.*

SALIX PURPUREA *L.*

Low grounds. Albany and Bethlehem. An introduced willow, which has run wild in some places.

POTAMOGETON LONCHITIS *Tuckm.*

Ticonderoga. Aug.

LISTERA AUSTRALIS *Lindl.*

Lily Marsh, Oswego. *Rev. H. Wibbe.* This is an interesting addition to our flora.

POGONIA AFFINIS *Aust.*

Fort Edward. *Vandenburg.*

MUSCARI RACEMOSUM *L.*

Wading River. *Miller.* A stray from cultivation.

ELEOCHARIS TRIGOSTATA *Torr.*

Wading River. *Miller.* This is probably the northern limit of this plant.

WOODSIA HYPERBOREA *Br.*

Crevices of rocks. Adirondack Mountains. Small forms of this fern closely resemble *W. glabella*, and it is, perhaps, questionable whether they should be regarded as two distinct species. In our specimens the chaffy scales of *W. hyperborea* are present, but not in abundance. The specimens were formerly referred to *W. glabella.*

ARTHONIA POLYMORPHA *Ach.*

Bark of trees. Genesee. *H. Willey.*

GRAPHIS ELECTRA *Tuckm.*

Bark of arbor-vitæ. Newcomb, Essex county. Aug.

CALICIUM BRUNNEOLUM *Ach.*

Decaying balsam trunks. Mount Marcy. Aug.

CALICIUM CURTUM *Turn. & Bor.*

Decaying prostrate trunks of hemlock trees. Catskill Mountains. Sept.

CHLOROSTYLIUM CATARACTARUM *Kutz.*

Granite pebbles in running streams. Caledonia. *G. W. Clinton.*

SIROSIPHON CRAMERI *Brugg.*

Wet surface of rocks. Mt. Marcy. Aug.

AGARICUS (LEPIOTA) CRISTATELLUS *Pk.*

Pileus convex, subumbonate, minutely mealy, especially on the margin, white, the disk slightly tinged with pink; lamellæ close, rounded behind, free, white; stem slender, whitish, hollow; spores subelliptical, .0002′ * long.

Plant about 1′ high, pileus 2″–4″ broad.

Mossy places in woods. Copake, Columbia County. Oct.

The relationship of this very small species appears to be with *A. cristatus.* The margin of the pileus is sometimes appendiculate with the minute fragments of the veil. The annulus is obsolete.

* One accent signifies inch or inches, two accents signify line or lines.

AGARICUS (TRICHOLOMA) FUMESCENS *Pk.*

Pileus convex or expanded, dry, clothed with a very minute appressed tomentum, whitish; lamellæ narrow, crowded, rounded behind, whitish or pale cream color, changing to a smoky blue or blackish color when bruised; stem short cylindrical, whitish; spores oblong-elliptical, .0002–.00025′ long.

Plant 1–2′ high, pileus 1′ broad, stem 2′–3″ thick.

Ground in woods. Copake. Oct.

The species is remarkable for the smoky or blackish hue assumed by the lamellæ when bruised, and also in drying.

AGARICUS (CLITOCYBE) PINOPHILUS *Pk.*

Pileus thin, convex, umbilicate or centrally depressed, glabrous, moist, pale tan-color, paler or alutaceous when dry; lamellæ moderately close, subarcuate, adnate or slightly decurrent, whitish; stem equal, stuffed or hollow; glabrous or subpruinose, colored like the pileus; spores nearly elliptical, .0002–.00025′ long; odor and taste resembling that of fresh meal.

Plant 1–2′ high, pileus about 1′ broad, stem 1″–2″ thick.

Ground under pine trees. Albany and Ticonderoga. July and August.

AGARICUS RUBROMARGINATUS *Fr.*

Ground under spruce trees. Adirondack Mountains. August.

Our specimens when fresh had a slight alkaline odor; otherwise they agree well with the description of the species.

AGARICUS (MYCENA) RADICATELLUS *Pk.*

Pileus thin, campanulate, glabrous, obtuse or subumbonate, whitish, when dry striate on the margin; lamellæ ascending, narrow, close, white; stem firm, glabrous, slender, whitish, deeply rooting; spores subglobose, rough, .0003′–.00035 long.

Plant 1.5–2′ high, pileus 4″–6″ broad.

Mossy ground in woods. Griffins. Delaware County. Sept.

This species is easily known by the long radicular portion of the stem, which penetrates the earth after the manner of *A. radicatus*.

AGARICUS CHRYSOPHYLLUS *Fr.*

Decaying wood. Adirondack Mountains, Summit and Sandlake. Aug. and Sept.

AGARICUS (PLEUROTUS) ABSCONDENS *Pk.*

Pure white; pileus compact, convex or slightly depressed on the disk, glabrous, dry; lamellæ thin, crowded, emarginate, with a decurrent tooth; stem eccentric, curved, stuffed, slightly mealy at the top; spores minute, elliptical, .0002 long, usually with a shining nucleus; odor distinct, farinaceous.

Stem about 2′ long, pileus 2′–3′ broad.

In hollow stumps. Griffins. Sept.

AGARICUS SEPTICUS *Fr.*

Decaying wood. Adirondack Mountains. Aug.

AGARICUS (CLITOPILUS) ALBOGRISEUS *Pk.*

Pileus firm, convex or slightly depressed in the center, smooth, pale-gray; lamellæ moderately close, adnate or slightly decurrent, grayish, then flesh-colored; stem solid, colored like the pileus; spores angular, irregular, .0004–.0005 long, .0003′ broad; odor farinaceous.

Plant 2–3′ high, pileus 6′′–12′′ broad, stem 1′′–2′′ thick.

Ground in woods. Adirondack Mountains. Aug.

AGARICUS (CLITOPILUS) MICROPUS *Pk.*

Pileus thin, fragile, convex or centrally depressed, umbilicate, silky, gray, usually with one or two narrow zones on the margin; lamellæ narrow, close, adnate or slightly decurrent, gray; stem short, solid, slightly thickened at the top, gray, pruinose, with white mycelium at the base; spores angular, irregular, .0004′ long, .00025′ broad; odor farinaceous.

Plant 1′ high, pileus 6′′–12′′ broad.

Ground under trees. Ticonderoga. Aug.

AGARICUS (LEPTONIA) UNDULATELLUS *Pk.*

Pileus membranaceous, convex, minutely scurfy, squamulose on the disk, hygrophanous, grayish-brown and striatulate when moist, wavy on the margin; lamellæ rounded behind, nearly free, subdistant, whitish, then tinged with flesh-color; stem slender, glabrous, colored like the pileus, usually curved; spores irregular, .0004 long, .0003′ broad.

Plant about 1′ high, pileus 6′′–8′′ broad.

Decaying prostrate trunks of trees. Pine Hill. Sept.

When dry, the pileus is somewhat shining, and the disk a little darker.

AGARICUS RHODOCALYX *Lasch.*

Ground in woods. Adirondack Mountains. Aug.

AGARICUS (PHOLIOTA) SQUARROSOIDES *Pk.*

Pileus firm, convex, viscid when moist, at first densely covered by erect papillose or subspinose tawny scales, which soon separate from each other, revealing the whitish color and viscid character of the pileus; lamellæ close, emarginate, at first whitish, then pallid or dull cinnamon color; stem equal, firm, stuffed, rough with thick squarrose scales, white above the thick floccose annulus, pallid or tawny below; spores minute, elliptical, .0002′ long, .00015′ broad.

Densely cæspitose, 3′–6′ high, pileus 2′–4′ broad, stem 3′′–5′′ thick.

Dead trunks and old stumps of maple. Adirondack and Catskill Mountains. Autumn.

This is evidently closely related to *A. squarrosus*, with which it has, perhaps, been confused, but its different colors and viscid pileus appear to warrant its separation.

AGARICUS (PHOLIOTA) LIMONELLUS *Pk.*

Pileus thin, convex or expanded, subumbonate, viscid, rough with scattered erect reddish-brown scales, lemon-yellow; lamellæ narrow, close, rounded

behind, whitish; stem equal, solid, rough with revolute or recurved scales, pallid or yellowish, smooth above the lacerated annulus, dusted with yellow particles at the insertion of the lamellæ; spores elliptical, .0003′–.00035′ long, .0002′–.00025′ broad.

Plant cæspitose, 2′–3′ high, pileus 1′–2′ broad, stem 2″–3″ thick.

Prostrate beech trunks in woods. Griffins. Sept.

This is one of our most beautiful species. It is easily separated from its allies by its lively lemon-yellow color. It is allied to *A. flammans*.

AGARICUS (PHOLIOTA) VERMIFLUUS *Pk.*

Pileus convex or expanded, smooth, white, often tinged with yellow, sometimes areolate-rimose, especially on the disk, the margin decurved, and sometimes floccose-squamose from the remains of the veil; lamellæ close, white, then ferruginous-brown, usually minutely eroded on the edge; stem hollow, striated at the top where it is sometimes thickened, white; annulus lacerated or evanescent; spores ferruginous-brown, .00045′–.0005′ long, .0003′ broad.

Plant 2′–4′ high, pileus 2′–4′ broad, stem 3″–5″ thick.

Fields among oat stubble. Ticonderoga. Aug.

This species is evidently closely related to *A. præcox*, but its larger size, larger spores, late appearance, etc., induce me to separate it. When moist, the pileus appears to be slightly viscid. It is so liable to the attacks of insect larvæ that it is difficult to dry a specimen before it is badly eaten.

AGARICUS (INOCYBE) PALUDINELLUS *Pk.*

Pileus thin, plane or slightly convex, umbonate, subfibrillose, whitish or pallid; lamellæ narrow, close, whitish then subferruginose; stem slender, equal, colored like the pileus, with an abundant white mycelium at the base; spores subelliptical, nodulose, .0003′ long, .0002′ broad.

Plant gregarious, 1′–2′ high, pileus 5″–10″ broad, stem nearly 1″ thick.

In low grounds and wet places under bushes. Sandlake. Aug.

This species is easily recognized by its pale, umbonate pileus and nodulose spores.

AGARICUS (NAUCORIA) LENTICEPS *Pk.*

Pileus thin, convex or nearly plane, dingy-ochre or subolivaceous, the disk brown or blackish-brown; lamellæ plane, subdistant, adnate, with a decurrent tooth, whitish or pallid; stem slender, hollow, paler above and slightly squamulose; spores large, variable in size, .0005′–.00075′ long, .0003′–.0004′ broad.

Plant 1′–1.5′ high, pileus 6″–10″ broad, stem scarcely 1″ thick.

Sandy soil along railroads. Center. Oct.

AGARICUS (HYPHOLOMA) HYMENOCEPHALUS *Pk.*

Pileus thin, fragile, campanulate then expanded, sometimes umbonate, hygrophanous, brown and striatulate when moist, pallid or whitish and radiately rugulose when dry, subatomate, the whitish appendiculate veil soon evanescent; lamellæ narrow, close, dingy then brown; stem slender, brittle,

hollow, striate and slightly mealy at the top, white; spores brown, elliptical, .0003′ long, .00016′ broad.

Plant 3′–4′ high, pileus 1′–2′ broad, stem 1′′–1.5′′ thick.

Ground under alders. Adirondack Mountains. Aug.

It belongs to the section *Appendiculati*, and is remarkable for the fragile character of the pileus and stem.

AGARICUS (PSILOCYBE) CAMPTOPUS *Pk.*

Pileus thin, broadly convex, glabrous, hygrophanous, brown and striatulate when moist, whitish when dry; lamellæ narrow, close, whitish becoming brown; stem equal, smooth, generally curved, slightly pruinose or mealy at the top, with a white strigose mycelium at the base; spores elliptical, .00025′ long, .00016′ broad.

Plant about 1′ high, pileus 4′′–10′′ broad.

Prostrate trunks of trees in woods. Catskill Mountains. Sept.

This plant bears some resemblance in color to *A. appendiculatus*, but I find no trace of a veil. The stem is solid, and the pileus is even when dry.

COPRINUS MACROSPORUS *Pk.*

Pileus ovate, then expanded, rimose-striate, obscurely floccose-squamulose, white, the small even brownish disk squamose; lamellæ crowded, free, white then black; stem glabrous, white, with traces of an annulus near the thickened or subbulbous base; spores very large, elliptical, .0008′–.001′ long, .0005′–.00065′ broad.

Plant cæspitose, 2′–3′ high, pileus 1′–2′ broad, stem 1′′ thick.

Ground in open fields. Ticonderoga. Aug.

The prominent characters of this species are the rimose pileus, squamose disk, free lamellæ, and large spores. In its early state it resembles some species of Lepiota. It seems to be intermediate between the sections *Atramentarii* and *Micacei*.

COPRINUS ROTUNDOSPORUS *Pk.*

Pileus thin, campanulate, whitish or pale cinereus with a thin floccose subpersistent tomentum, even; lamellæ free; stem slightly tapering upward, white; spores subglobose, .0003′–.00035′ long, nearly as broad.

Plant 2′–3′ high, pileus about 1′ broad.

About the roots of trees in woods. Catskill Mountains. Sept.

This species is apparently related to *C. niveus*, and is remarkable for its nearly globose spores. All the specimens seen were old and partly dried, so that the description is not as full as could be desired.

CORTINARIUS (PHLEGMACIUM) COPAKENSIS *Pk.*

Pileus convex then expanded, often crowded and irregular, viscid, corrugated, pale-ochre, slightly tinged with red; lamellæ sub-distant, broad behind, at first violaceous, toothed or eroded on the margin, the interspaces sometimes veiny; stem equal or tapering upwards, stuffed, silky, whitish; spores broadly elliptical, rough, .0003′–.00035′ long.

Plant subcæspitose, 2′–3′ high, pileus 1.5′–3′ broad, stem 2′′–4′′ thick.

Ground in woods. Copake. Oct.

The pileus when dry is glabrous and shining.

COMATUS (PHLEGMACIUM) LAPIDOPHILUS *Pk.*

Pileus at first hemispherical and cinereous, then convex or expanded and tinged with ochre, often crowded and irregular, virgate with appressed fibrils; lamellæ crowded, at first dark violaceous then argillaceous-cinnamon; stem solid, equal or slightly thickened at the base, whitish; flesh of the pileus whitish; spores unequally elliptical, rough, .0003' long, .00025' broad.

Plant subcæspitose, 2'–4' high, pileus 2'–3' broad, stem 3''–5'' thick.

Rocky soil in woods. Ticonderoga. Aug.

MARASMIUS CALOPUS *Fr.*

Twigs and stems among fallen leaves in woods. Ticonderoga. Aug.

This might easily be mistaken for *M. scorodonius*, but it is without odor, and has a different insertion of the lamellæ. It is sometimes cæspitose. The pileus in our specimens is whitish.

BOLETUS SATANUS *Lenz.*

Borders of woods in grassy ground. Ticonderoga. Aug.

POLYPORUS PALLIDUS *Schuls.*

Adirondack Mountains. Aug.

POLYPORUS (MERISMA) BEATIEI *Banning in litt.*

Pilei few, springing from a common, often tuber-like base, spreading out into a suborbicular mass often a foot or more in diameter, nearly plane above or centrally depressed and imperfectly funnel-shaped, variously confluent and imbricated, sometimes single, subzonate, rough with little radiating elevations or wrinkles, which sometimes form imperfect reticulations towards the base, subpulverulent and strigose-villose in zones or almost evenly scabrous-villose, alutaceous, the margin often irregular and lobed; pores of medium size, decurrent on the stem-like base, unequal, angular, lacerated, toothed and even lamellated, generally about equal in length to the thickness of the flesh of the pileus, subconcolorous; flesh pallid or pale alutaceous, of a firm, but cheesy texture; spores globose, rough, .00025–.0003' in diameter, colorless.

"Ground" in woods. Wilmurt, Herkimer County. *G. S. Watkins* and *W. D. Edmonds.*

Ground under an oak tree. Brighton, Monroe County. *G. T. Fish.*

Both gentlemen from whom I have received specimens of this fungus, speak of it as growing on the ground, but it is quite probable that it starts from some decaying wood or tree root buried in the earth. I have also received a specimen of this plant from Miss M. E. Banning, of Baltimore, Md., who sent it under the name here given.

The species seems closely related to *P. subgiganteus* B & C., but as I am unable, from the description of that species, to satisfy myself that our plants belong to it, I have thought best to describe them under another name. The Baltimore plant has a single pileus seven inches in diameter and four inches high. The New York specimens are compound, the one from Wilmurt being ten inches broad and nine inches high, the one from Brighton, fifteen inches broad and six inches high. These are the dimensions of the shrunken, dried plants. When fresh, they were very much larger. The dimensions of the Wilmurt plant, when fresh, were given me by Mr. Edmonds, as follows:

Height, eighteen inches; circumference, fifty-seven inches; thickness of pileus about one inch. From this it will be seen that the dried plants are only about half their size when fresh. The flesh resembles in color and texture that of *P. sulphureus*, to which the species is allied, but it is a little harder. The dried plants have a decided and peculiar odor.

POLYPORUS (ANODERMEI) WEINMANNI *Fr.*

Decaying hemlock trunks. Pine Hill. Sept.

The whole plant sometimes acquires a reddish hue in drying. The pileus is two or three inches broad. A tendency to form narrow zones on the margin is manifest.

POLYPORUS (INODERMEI) PLANUS *Pk.*

Pileus thin, coriaceous, plane, suborbicular, about 1′ broad, sometimes confluent, dorsally attached, minutely villose or velvety, brown or brownish fawn-colored, variegated with narrow darker glabrous zones, margin whitish; pores minute, obtuse, short, subrotund, whitish or pallid; flesh pallid.

Dead branches. North Greenbush.

This has the colors of *P. scutellatus*, but the thin plane pileus and short pores are so unlike that species that I am compelled to regard it as distinct.

POLYPORUS (RESUPINATI) SUBICULOSUS *Pk.*

Subiculum widely effused, dense, but soft and downy-tomentose, tawny-cinnamon; pores forming patches upon the subiculum, short, unequal, sometimes slightly labyrinthiform, cinereo-ferruginous, ferruginous-brown when bruised, the dissepiments when young whitish and pruinose-villose.

Creeping over mosses, decaying wood, and even stones, in sheltered places. Copake. Oct.

The patches are several inches in extent. The pores have a paler hue than the subiculum, but they become darker when bruised.

POLYPORUS (RESUPINATI) SEMITINCTUS *Pk.*

Subiculum thin, soft, cottony, separable from the matrix, whitish, more or less tinged with lilac, sometimes forming branching creeping threads; pores very short, unequal, whitish or pale cream-color, the dissepiments at first obtuse, then thinner, toothed on the edge.

Under surface of maple chips. Griffins. Sept.

This is a soft, delicate species, with merulioid pores, similar to those of *P. violaceus*. The lilac stains appear on the subiculum only.

POLYPORUS (RESUPINATI) INDURATUS *Pk.*

Effused, hard, determinate, 1″–2″ thick, inseparable from the matrix, almost wholly composed of minute subrotund vesicular pores, yellowish or pale-ochre, the surface slightly pruinose and tinged with flesh-color; the yellowish mycelium or subiculum penetrating the matrix.

Decaying wood. Oneida. *H. A. Warne.*

This species is remarkable for the peculiar character of the pores which form little cells or cavities instead of tubes, so that in whatever direction the mass is cut or broken, the section appears equally porous. Perhaps this character will necessitate the formation of a new genus.

TRAMETES SUAVEOLENS *L.*

Decaying wood. Center. Oct.

SOLENIA VILLOSA *Fr.*

Decaying wood. Summit. Sept.

HYDNUM SULPHURELLUM *Pk.*

Subiculum thin, effused, definite, sometimes rimose, pale sulphur-yellow; scalei scattered, conical, subobtuse, sometimes compound, colored like the subiculum; spores oblong, slightly curved, .0002′–.00025′ long.

Dead branches of mountain maple, *Acer spicatum*. Griffins. Sept.

The small suborbicular patches are sometimes elongated by confluence. The color is of a clear whitish sulphur hue. The teeth appear like little conical papillæ.

MUCRONELLA CALVA *A. & S.*

Prostrate hemlock trunks. Griffins. Sept.

MUCRONELLA AGGREGATA *Fr.*

Decaying wood of deciduous trees. Oneida. *Warne.*

CRATERELLUS DUBIUS *Pk.*

Pileus infundibuliform, subfibrillose, lurid-brown, pervious to the base, the margin generally wavy and lobed; hymenium dark cinereous, rugose when moist, the minute crowded irregular folds abundantly anastomosing, nearly even when dry; stem short; spores broadly elliptical or subglobose, .00025′–.0003′ long.

Plant simple or cæspitose, 2′–3′ high, pileus 1′–2′ broad.

Ground under spruce trees. Adirondack Mountains. Aug.

In color this species bears some resemblance to *Cantharellus cinereus*. From *Craterellus sinuosus*, it is separated by its pervious stem, and from *C. cornucopioides* by its more cæspitose habit, paler color and smaller spores.

STEREUM SANGUINOLENTUM *A. & S.*

Prostrate hemlock trunks. Griffins. Sept.

The pileus is sometimes hairy and distinctly zoned with darker bands; the hymenium is even or radiately-wrinkled.

CYPHELLA SULPHUREA *Batsch.*

Living stems of herbs in damp places. Griffins. Sept.

Some of the specimens were white when collected, but in drying, these assumed the yellow color of the others.

CLAVARIA FUMIGATA *Pk.*

Stem short, thick, branching from near the base, whitish; branches numerous, forming a dense mass, smoky-ochraceous, sometimes tinged with lilac; tips obtuse; spores .0003′–.0005′ long.

Ground in woods. Ticonderoga. Aug.

The tufts are 4′–5′ high and remarkable for their smoky or dingy color.

CLAVARIA CORYNOIDES *Pk.*

Small, simple, clavate; club obtuse, yellowish, or cream colored, gradually narrowed below and losing itself in the short white stem.

Gregarious, about half an inch high.

Damp ground by roadsides. Adirondack Mountains. Aug.

TREMELLA LUTESCENS *Pers.*

Dead poplar branches. Adirondack Mountains. Aug.

GUEPINIA PEZIZA *Tul.*

Cup-shaped, single or clustered, erumpent, stipitate, at first nearly closed, then open and concave, 1′–3″ broad, yellow, often irregular, base stem-like, concolorous or slightly whitish-pruinose, longitudinally wrinkled, the ridges extending upwards on the base of the cup; substance tremelloid, rather tough; spores oblong-elliptical, at first simple, then one to three-septate, .0004′–.0005′ long, borne on spicules at the tips of rather thick subclavate sporophores.

Dead alder. Center. Sept.

In the dried specimens the color inclines to orange. The general appearance is not unlike that of a clustered Peziza. As our specimens exhibit some characters not mentioned in the description of the species to which we have referred them, we have given a full description of them.

HYMENULA OLIVACEA *Pk.*

Thin, closely applied to the matrix, olive-green, shining, subviscid, definite or subconfluent, with a narrow raised margin which is sometimes whitish; spores minute, cylindrical, straight, trinucleate, colorless, .0002′ long.

Dead stems of *Eupatorium ageratoides.* Catskill Mountains. Sept.

LYCOPERDON GLABELLUM *Pk.*

Subglobose or subturbinate, 1′–1.5′ broad, sometimes narrowed below into a short stem-like base, furfuraceous with very minute nearly uniform persistent warts, which appear to the naked eye like minute granules or papillæ, yellow, opening by a small aperture; inner mass purplish-brown, capillitium with a central columella; spores purplish-brown, globose, rough, .0002′–.00025′ in diameter.

Ground in copses and in pine woods. West Albany and North Greenbush. Autumn.

The verrucæ or spinules are so minute, that at first sight, they are scarcely visible, the peridium appearing nearly smooth. They persist even in the old and flaccid condition of the plant. The species is manifestly closely related to *L. atropurpureum*, but that is described as "at first rough with minute spines," thus indicating that it becomes smooth afterwards. It is also said to be "dingy-rufous," but our plant is constantly yellow.

LYCOPERDON CALYPTRIFORME *Berk.*

Moss-covered rocks. Adirondack Mountains. Aug.

This species is remarkable for its peculiar shape and singular habitat. It is evidently rare. But two specimens were found.

MILLERIA *gen. nov.*

Peridium membranaceous, enclosing numerous minute sporangium-like bodies bearing upon the surface a stratum of spores.

This is a genus of Gasteromycetes, near Polysaccum. It is respectfully dedicated to its discoverer. *Mr. E. S. Miller.*

MILLERIA HERBATICA *Pk.*

Peridia oval or ovate-conical, subobtuse, firm, externally minutely warty or mealy-furfuraceous, whitish, inclosing a mass of minute subglobose or slightly angular sporangioles adhering together, black externally, pallid within; spores superficial on the sporangioles, globose, colored, .0005′–.00065′ in diameter.

Panicles of *Rhynchospora macrostachya*. Wading River. *Miller.*

This rare, but interesting fungus resembles in size and color the preceding species, but its interior structure is wholly different. The sporangioles appear to be composed of densely compacted or reticulated threads and cellular matter. I have not been able to detect any investing membrane, the spores appearing to rest directly upon the surface to which they give the black color. The peridium does not appear to have been ruptured naturally in any of the specimens. The cavity is only partly filled by the mass of sporangioles.

PHYSARUM PSITTACINUM *Ditm.*

Fallen leaves, decaying wood, bark and effete Hypoxylon. Adirondack Mountains. Aug.

PHYSARUM ORNATUM *Pk.*

Sporangia depressed or hemispherical, plane or slightly concave beneath, greenish-cinereous, dotted with small yellow granules, the empty walls whitish; stem short, black or blackish-brown, generally longitudinally wrinkled when dry; columella none; capillitium with numerous yellow knot-like thickenings; spores globose, smooth, violet-brown in the mass, .0004′–.0005′ in diameter.

Decaying wood. Albany. Aug.

PHYSARUM ATRORUBRUM *Pk.*

Scattered or gregarious, stipitate; sporangia globose, even or somewhat wrinkled, dark-red; stem cylindrical, even, blackish or subconcolorous; capillitium when cleared of the spores whitish, sometimes with a slight pinkish tinge; columella none; spores globose, smooth, dark-brown in the mass, dark-red when separated, .0003–.00035′ in diameter.

Decaying wood. Adirondack Mountains. Aug.

The plants are scarcely one line high. The capillitium is very delicate, and when cleared of the spores, the knot-like thickenings are seen to be very small and of a dark-red color, to which probably is due the pinkish tinge—sometimes observed. A part only of the thickenings are filled with lime granules. The dark-red granules of the sporangium walls are abundant, and appear to form a continuous crust.

PHYSARUM INÆQUALIS *Pk.*

Sporangia sessile, subglobose or irregular, sometimes elongated and confluent, red, abundantly dotted with minute scarlet granules; capillitium

lemon-yellow; spores brown in the mass, globose or subglobose, smooth, very unequal in size, .0003′–.0012′ in diameter.

Decaying wood. Griffins. Sept.

This is a most singular fungus, and but little of it was found. The capillitium though abundantly charged with lime granules, does not appear to have them continuous throughout its whole extent, and the plant would, therefore, seem to belong to the genus Physarum. On the other hand, the larger bodies which I have regarded as spores, give indications that they may be really an investing membrane, which encloses the true spores, for they are often found ruptured, though I have not been able to see them discharging spores or containing them. They are colored like the spores, and there are all manner of intermediate sizes between the largest and smallest. It thus appears to be neither a good Physarum nor a good Badhamia, though with close relations to both. For the present, I leave it in the genus Physarum. *P. rubiginosum* is said to have the sporangia walls and the granules of lime—both scarlet—which is not the case with our plant.

BADHAMIA AFFINIS *R.*

Twigs and leaves. Sandlake. Aug.

DIDYMIUM EXIMIUM *Pk.*

Sporangia subglobose, slightly umbilicate beneath, whitish or subcinereous, mealy with numerous granules; stem slender, erect, even, pallid or subrufescent, blackish at the base; columella orbicular, discoid, dull-yellowish or pallid; capillitium whitish; spores globose nearly smooth, blackish in the mass, .00035′–.0004′ in diameter.

Fallen leaves. Adirondack Mountains. Aug.

I have not seen the full description of *D. discoideum*, which is also said to have a discoid columella, but as its capillitium is said to be brown, it is probably distinct from this species. In our plant the sporangium, after bursting at the top, sometimes breaks loose from the stem and slides downwards, thus protruding and revealing to sight the flattened disk-like columella.

DIDYMIUM ANGULATUM *Pk.*

Sporangia delicate, subglobose, whitish, externally mealy with numerous granules and crystals of lime; stem short, whitish; columella subglobose, white or pale yellow; capillitium sparse, delicate, whitish or slightly colored; spores irregular, angular, blackish in the mass, .00035′–.0005′ long.

Fallen leaves. Adirondack Mountains. Aug.

CHONDRIODERMA DIFFORME *Pers.*

Fallen leaves, bark and fern stems. Adirondack Mountains. Aug.

DIACHÆA SUBSESSILIS *Pk.*

Gregarious or crowded; sporangia subglobose, sessile or with a very short white stem, the walls delicate, iridescent with various metallic tints; columella obsolete; capillitium and mass of spores violet-brown; spores globose, rough, .0004′–.0005′ in diameter.

Fallen leaves. Adirondack Mountains. Aug.

This is a most singular species, and apparently very rare. In its lack of a distinct columella, it departs from the generic character, but it cannot be placed

in the genus Lamprodorma, for the same objection would hold there, and besides that, another is found in the presence of lime granules in the stem. Even when no distinct stem is present, a small whitish mass of granules can generally be seen at the point of attachment. The capillitium appears to originate at the base of the sporangium. The spores are larger, but less rough than those of *D. splendens*.

COMATRICHA ÆQUALIS *Pk.*

Gregarious or loosely clustered, about three lines high, arising from a thin hypothallus; sporangia cylindrical, obtuse, fugacious, wholly falling away; capillitium brown or blackish-brown, forming an intricate net-work; stem slender, smooth, black, penetrating the capillitium as a columella and extending nearly or quite to the apex, the free portion about equal in length to one-half the altitude of the entire plant; spores globose, smooth, violet-black, .0008′–.00035′ in diameter.

Decaying wood. Catskill Mountains. Sept.

In color this species is almost exactly like *Stemonitis fusca*, from which its more lax habit, proportionally longer stem and different capillitium separate it. The larger size, both of the plant itself, and of the spores, will separate it from *Comatricha typhina*. The length of the stem and of the capillitium are nearly equal, hence the specific name.

COMATRICHA FRIESIANA *De By.*

Decaying wood. Adirondack Mountains. Aug.

This is a variety with the sporangia generally globose.

The variety *oblonga* was found on the Catskill Mountains.

COMATRICHA PULCHELLA *Bab.*

Decaying stems of herbs. Adirondack Mountains. Aug.

LAMPRODERMA VIOLACEUM *Fr.*

Dead stems of herbs. Catskill Mountains. Sept.

Our specimens have a brownish capillitium and spores .0003′–.00035′ in diameter, but they are probably a mere variety of the species.

TRICHIA SCABRA *R.*

Decaying wood. Griffins. Sept.

TRICHIA INCONSPICUA *R.*

Bark of buttonwood, *Platanus occidentalis*. Bethlehem.

ARCYRIA POMIFORMIS *Roth.*

Decaying wood and bark. Mechanicville. Oct.

LYCOGALA FLAVOFUSCUM *Ehr.*

Decaying wood and stumps. Griffins and Bethlehem. Sept. and Oct.

OLIGONEMA BREVIFILA *Pk.*

Bright ochery-yellow throughout; sporangia crowded, forming clusters or effused patches, shining, variable in shape; threads few, very short, cylindrical or subfusiform, not septate; spores globose, rough, .00045′ in diameter.

Mosses. Oneida. *Warne.*

This species differs from *O. flavida* (*Perichæna flavida* Pk.) in its darker color and shorter, more strongly marked threads.

SACIDIUM PINI *Fr.*

Dead balsam leaves. Adirondack Mountains and Summit. Aug. and Sept.

SEPTORIA WALDSTEINIÆ *P. & C.*

Spots small, unequal, suborbicular, arid, gray with a purple-brown or blackish margin, perithecia minute, few, epiphyllous, black; spores straight, .001′ long.

Leaves of dry strawberry, *Waldsteinia fragarioides*. Portage. *G. W. Clinton*. Helderberg Mountains. May.

SEPTORIA VERBASCICOLA *B. & C.*

Leaves of mullein, *Verbascum blattaria*. Albany. July.

I find no description of this fungus, and take the name from specimens received from Dr. Curtis.

PHYLLOSTICTA LONICERÆ *Desm.*

Living leaves of fly honeysuckle, *Lonicera ciliata*. Catskill and Adirondack Mountains. July and Aug.

VERMICULARIA TRICHELLA *Grev.*

Ivy leaves. Buffalo. *Clinton*.

VERMICULARIA ALBOMACULATA *Schw.*

Leaves of carrion flower, *Smilax herbacea*. Buffalo. Sept. *Clinton*.

MELANCONIUM AMERICANUM *P. & C.*

Pustules small, grouped or circinating on orbicular spots; stroma none or obsolete; spores compact, oozing out in subconical masses, staining the matrix black, subglobose or broadly elliptical, .0002′–.0003′ long.

In conservatories on dead leaves of the American century plant, *Agave Americana*. Buffalo. Feb. *Clinton*.

SPORIDESMIUM SICYNUM *Thum.*

Dead alder branches. Adirondack Mountains. Aug.

PHRAGMIDIUM BULBOSUM *Fr.*

Leaves of *Potentilla fruticosa*. Copake. Oct.

The spores are darker colored than in European specimens, and therefore the septa are soon very obscure.

UROMYCES TRIFOLII *Fckl.*

Leaves of *Medicago lupulina*. Buffalo. *Clinton*.

UROMYCES POLYMORPHUS *P. & C.*

Spots brownish; sori blackish-brown, prominent, surrounded by the ruptured epidermis; spores large, polymorphous, subglobose, elliptical, ovate, oblong or clavate, often angular, the apex acute, obtuse, truncate or even emarginate, .0014′–.002′ long; pedicel equaling or exceeding the spore in length.

Lower surface of leaves of *Lathyrus ochroleucus*. Buffalo. Nov. *Clinton*.

UREDO SALVIÆ *B. & Br.*

Leaves of Calamagrostis Pickeringii. Mt. Marcy. Aug.

This fungus forms long discolored lines or patches on the leaves, closely resembling those formed by *Urocystis Agropyri* and *Urocystis occulta*. The spores in our specimens, as well as in those received from Europe under this name, are quite uniformly globose, not obovate as given in the description. They are generally .0004′–.0006′ in diameter, but occasionally they attain a diameter of .001′. I am not aware that this species has been before detected in this country.

MASSOSPORA, *gen. nov.*

Spores numerous, loosely adhering together and forming a pulverulent mass without any evident peridium. *Insecticolous.*

This is a peculiar genus, apparently belonging to the Coniomycetes, but its affinities are doubtful.

MASSOSPORA CICADINA *Pk.*

Spore mass occupying the abdominal cavity, whitish or pale cream-color, at length exposed by the falling away of the terminal rings of the abdomen; spores subglobose or broadly elliptical, granular within, sometimes containing one to three unequal nucleoli or oil globules, .00065′–.00085′ in diameter.

In the abdomen of the "Seventeen-year Locust," *Cicada septendecim*. Livingston, Columbia county, and Albany. June.

A specimen was also received from *Rev. R. B. Post*, which was taken at South Amboy, New Jersey.

This is a singular fungus, unlike any other known to me. In its early stage it is wholly concealed in the body of the insect, but just before, or soon after the death of the insect, the terminal rings of the abdomen fall away, revealing the pulverulent mass of spores within, which, by a superficial observer, might easily be mistaken for a lump of pale-yellow or whitish clay. I have not been able to detect any proper peridium, nor does any seem to be necessary, the walls of the abdomen answering as a substitute. In one or two examples, the spore mass was less fully developed, and of a brighter color. The spores, in this case, were much larger, being .0015′–.002′ in diameter, with the epispore roughly reticulated. This is probably an earlier condition of the same species, and is another indication that the proper position of the fungus is among the Coniomycetes, where there are several genera, with spores of two orders. The position of the genus, as it seems to me, is in the vicinity of the genus Protomyces, which has the spores developed in the living tissues of plants, as this has in the tissues of insects. This fungus is noticed, but not named, in Smithsonian Contributions, Vol. v, p. 53.

ISARIA TENUIPES *Pk.*

Stem very slender, elongated, glabrous, lemon-yellow, one to one and a half inches high, divided above into a few irregular branches, which are wholly covered by the white mealy coating of conidia; conidia oblong-elliptical, .00016′–.0002′ long.

Dead pupæ buried under fallen leaves. Center. Sept.

This is probably only a condition of some Torrubia; but, as it does not agree with any described form, I have thought best to designate it, for the present, by a name of its own.

STILBUM RIGIDUM *Pers.*

Decaying wood. Adirondack Mountains. Aug.

STILBUM FLAVIPES *Pk.*

Stem villose, tapering upward, less than a line high, buff-yellow; head small, subglobose or hemispherical, whitish; spores minute, elliptical, .0001′–.00012′ long.

Decaying wood. Center. Oct.

SPOROCYBE ABIETINA *Pk.*

Very minute; stems slender, distinctly septate, nearly black, terminating above in a minute obovate or subglobose yellowish head; spores minute, oblong, spermatoid.

Bark and wood of spruce, *Abies nigra.*

Specimens of spruce bark and wood, showing the work of the spruce mining beetle were collected in the Adirondack Mountains. These were wrapped in paper, brought to Albany, and laid away. Upon examining them some months afterward, the fungus was found upon them, having evidently developed since the collection of the bark. It is about the size of *S. byssoides.*

CLADOSPORIUM GRAMINUM *Lk.*

Dead leaves of grass and sedges. Center and North Greenbush. May.

HELMINTHOSPORIUM INTERSEMINATUM *B. & R.*

Dead stems of stone root, *Collinsonia Canadensis.* North Greenbush. Oct.

HELMINTHOSPORIUM HYDROPIPERIS *Thum.*

Living leaves of smart weed, *Polygonum Hydropiper.* Albany. Sept.

POLYACTIS VULGARIS *Lk.*

On carnation pink in conservatories. Buffalo. Dec. *Clinton.*

BOTRYOSPORIUM PULCHRUM *Berk.*

Dead grass leaves. Center. Sept.

In our specimens the tips of the branches are swollen; otherwise they agree with the description of the species.

ASPERGILLUS FLAVUS *Lk.*

On excrement of caterpillars in damp places. North Greenbush and Sandlake. July and Aug.

FUSIDIUM CANUM *Pass.*

Leaves of *Erigeron Canadensis.* North Greenbush. Sept.

PERONOSPORA SIMPLEX *Pk.*

Flocci somewhat tufted, short, .004′–.006′ long, simple, bearing on the swollen obtuse apex five to fifteen cylindrical spicules, whose length is about half the diameter of the acrospores; acrospores borne on the spicules, globose, generally with a broad umbo at the apex, and a minute projecting point of attachment at the base, .0008′–.0012′ in diameter.

Living and languishing leaves of the New England Aster, *Aster Novæ-Angliæ.* North Greenbush. Sept.

MUCOR RAMOSUS *Bull.*

Decaying fungi. Albany. Sept.

MUCOR CANINUS *Pers.*

Excrement of dogs. Ticonderoga. Aug.

PEZIZA SUCCOSA *Berk.*

Damp shaded soil in woods. Albany and North Greenbush. July.

PEZIZA VULCANALIS *Pk.*

Burnt ground under spruce trees. Adirondack Mountains. Aug.

This is regarded by some as equivalent to *P. cupularis*, but if the figure and description of *P. cupularis* in Mycographia are correct, our plant should be kept separate. It is not "subsessile," but it always, so far as I have seen, has a distinct stem. Its color, externally, is brown or ochraceous-brown, and the disk is orange or yellow-orange, not of a uniform cervine color without and within as figured. Neither is it "externally farinose;" and finally the spores are considerably smaller and destitute of nuclei. Indeed, our plant approaches nearer to *P. pulchra* than to *P. cupularis* as given in Mycographia, and I would not be averse to regarding it equivalent to that species. But if these two are the same, the name *P. vulcanalis* antedates the other and should be retained.

PEZIZA (HUMARIA) GALLINACEA *Pk.*

Cups whitish or yellowish, expanded, sessile, attached by a slight projecting point, externally slightly furfuraceous, the margin often wavy or irregular, the hymenium smooth, sometimes uneven; asci long, slender, cylindrical; spores elliptical, smooth, uniseriate, occupying the upper part of the ascus, .0003'–.0004' long; paraphyses slender, slightly clavate at the tips.

Partridge dung. Oneida. July. *Warne.*

PEZIZA UMBRORUM *Fckl.*

Clay soil. Oneida. *Warne.*

PEZIZA SULPHUREA *Pers.*

Dead stems of herbs in damp places. Albany. Sept.

PEZIZA (DASYSCYPHÆ) VIRIDICOMA *Pk.*

Cups minute, sessile, villose, yellowish-green; asci oblong clavate; spores crowded or biseriate, oblong or subfusiform, .0005'–.0006' long, .0002'–.00025' broad.

Decaying wood. Sandlake. Aug.

The peculiar color of this minute species renders it an attractive object.

PEZIZA BICUNNEOLA *Desm.*

Fallen leaves. Center. June.

PEZIZA OSMUNDÆ *C. & E.*

Near the base of Osmunda stems. Center. Sept.

PEZIZA (MOLLISIA) PLANODISCA *P. & C.*

Cups minute, sessile, whitish, the disk plane or slightly convex, obliterating the margin; asci short; spores crowded or biseriate, subfusiform, .0003'–.00035' long.

Dead leaves of grass, *Andropogon scoparius.* Buffalo. Nov. *Clinton.*

HELOTIUM ALBOPUNCTUM *Pk.*

Cups very minute, scattered, white, the disk soon plane or slightly concave, margin generally distinct; asci cylindrical; spores biseriate, oblong, narrow, generally binucleate, .0006′–.0007′ long.

Fallen beech leaves in woods. Adirondack Mountains. Aug.

This is an exceedingly minute species. In drying it acquires a yellowish tinge, and it is then scarcely visible to the naked eye. The stem is so short that the plant appears sessile.

HÆMATOMYCES ORBICULARIS *Pk.*

About one line in diameter, sessile, pulvinate, orbicular, subtremelloid, gyrose-convolute, blackish-brown, minutely dotted with rufous particles, as is also the moist pallid or subrufous spot on which it is seated; asci narrowly clavate, subacute; spores oblong-fusiform, simple, .0006′–.0007′ long, .00015′ broad; paraphyses numerous, filiform.

Decaying chestnut wood. Mechanicville. Oct.

I have seen no description of this genus, and refer our specimens to it, because of their congeneric relation to *Hæmatomyces vinosus* C. & E.

DERMATEA CARNEA *C. & E.*

Dead Viburnum stems. West Albany. Oct.

DERMATEA PHYLLOPHILA *Pk.*

Cups minute, suborbicular, often with a flexuous margin, dry, somewhat fibrous in texture, brownish and slightly hairy externally, erumpent, surrounded and partly concealed by the ruptured epidermis, sometimes throwing off a fragment of it, when moist, expanded and revealing a plane pallid or dingy-white disk; asci oblong-clavate, obtuse, sessile; spores broadly elliptical, nearly colorless, .0003′–.00035′ long, .0002′–.00025′ broad, generally containing a large shining nucleus; paraphyses thickened above, often a little longer than the asci.

Lower surface of balsam leaves while yet on the tree. Summit. Sept.

At first sight this fungus might be taken for some effete Peridermium, such is its general external appearance. When moist the cups are swollen and become more distinct. Under a lens the disk has a pruinose appearance. The leaves that are attacked are killed by the fungus, all those bearing it being dead, though in the immediate vicinity of living ones.

DERMATEA XANTHOXYLI *Pk.*

Cups densely tufted, minute, often irregular from mutual compression, brownish-lilac, externally and on the margin whitish with a villose pruinosity, disk plane or slightly concave; asci short, clavate; spores crowded, simple, slightly curved, subcylindrical, obtuse, colorless.

Dead branches of prickly ash, *Xanthoxylum Americanum*. West Troy. Oct.

The tufts are scarcely a line broad and easily overlooked, yet they sometimes contain a dozen cups each.

CRYPTOSPORIUM CASSANDRÆ *Pk.*

Oblong or hysteriiform, erumpent, closely surrounded by the ruptured epidermis, black; asci oblong-clavate; spores linear, curved, involved in mucus, slightly colored, .0011′–.0012′ long.

Dead stems of leather leaf, *Cassandra calyculata*. Center. June.

CRYPTOSPORIUM PHEIDOLIDES *Pk.*

Cups scattered, minute, erumpent, sessile or attached by a narrowed base, smooth, black; asci oblong-clavate; spores crowded oblong-elliptical, .0008′–.001′ long, often containing a single large nucleus, sometimes slightly curved.

Dead stems of leather leaf, *Cassandra calyculata*. Center. June.

This was associated with *C. Cassandræ*, but the two are easily distinguished.

TYMPANIS ACERINA *Pk.*

Cups subcæspitose, obconic, erumpent, black with a distinct often flexuous margin, disk concave; asci oblong-cylindrical; spores oblong, colored, .0005′–.0008′ long, containing a granular endochrome, at length quadrinucleate or trisepate.

Bark of maple trees. Adirondack and Catskill Mountains. Aug. and Sept.

The cups often manifest a tendency to form lines or grow in linear tufts. They are usually accompanied by *Sphæronema acerina*, which is probably one condition of the species. Both frequently grow from the same chink in the bark.

PATELLARIA OLIVACEA *Batsch.*

Decaying wood. Adirondack and Catskill Mountains. July and Sept.

A form of this species occurs which is hispid with straight rigid black hairs or setæ.

PHACIDIUM BRUNNEOLUM *Pk.*

Perithecia small, innate, brown or blackish-brown, with four or five rather broad teeth; disk dingy-white; asci cylindrical or clavate, narrow; spores small, colorless, sublanceolate or oblong-ovate, often binucleate, .0003′–.0004′ long.

Fading leaves of *Galium trifidum*. Summit. Sept.

I have seen no description of *Phacidium autumnale* Fckl., but according to my European specimens of that species, our plant is quite different.

TRIBLIDIUM MORBIDUM *Pk.*

Perithecia seated on a thin black crust, irregular, elliptical or oblong, rugose, black, at length widely gaping or even suborbicular, revealing the dingy-white or cinereous disk; asci narrowly lanceolate, tapering towards the base; spores filiform, .003′–.004′ long.

Decaying prostrate trunks of spruce. Sandlake. Aug.

The general appearance of the perithecia is such as to suggest the idea that they are diseased or badly developed. They indicate that the plant is a Triblidium, but the spores are like those of Colpoma.

GLONIUM HYALOSPORUM *Ger. in litt.*

Decaying wood. Willowemoc. *W. R. Gerard.*

HYPODERMA NERVISEQUUM *DC.*

Leaves of balsam. Mt. Marcy and Summit.

The specimens are without fruit, but so closely resemble European specimens that I have no hesitation in referring them to this species.

RHYTISMA MAXIMUM *Fr.*

Living stems of willows, *Salix sericea.* Stamford, Delaware county. Sept.

This is also without fruit, but so characteristic in other respects, that there can scarcely be a doubt of its identity. It kills the stems and branches it attacks.

HYPOCREA VIRIDIS *Tode.*

Maple chips. Griffins. Sept.

This is so unlike our ordinary forms of *H. gelatinosa*, that it seems best to keep them distinct, though some botanists unite them.

HYPOXYLON XANTHOCREAS *B. & C.*

Prostrate dead alders. Center. Sept.

Our specimens agree with those received from Dr. Curtis under this name, but they do not agree with the description of the species as published in Grevillea. In our specimens the young plant is covered with a compact yellow conidiiferous stratum bearing elliptical conidia .00016–.0002 long. As the stroma increases in size, it becomes naked above, and of a purple-brown or chestnut color, which contrasts beautifully with the yellow margin. When old it becomes darker, but I have not seen it "black" as described. The surface is generally irregular or uneven. The stroma is whitish or pallid within, but near the surface it is yellow. The spores vary from .0004′–.0006′ in length. I find none, neither in our specimens, nor in those of Dr. Curtis, as small as stated in the description. But for the examples of Dr. Curtis, I should have regarded our plant as a different species, so widely does it differ from the description.

DIATRYPE ASTEROSTOMA *B. & C.*

Birch bark. Oneida. *Warne.*

DOTHIDEA EPILOBII *Fr.*

Dead stems of willow herb, *Epilobium angustifolium.* Adirondack Mountains. Aug.

VALSA TRANSLUCENS *De Not.*

Dead willow branches. West Albany. Apr.

VALSA XANTHOXYLI *Pk.*

Pustules slightly prominent, erumpent, with a yellowish or tawny furfuraceous disk which is dotted by the ostiola; perithecia two to fifteen, rarely single, fragile, pale, surrounded by a tawny tomentum, which is sometimes agglutinated into a kind of spurious receptacle; ostiola distinct, short, obtuse, black, at first suffused with a yellowish-green powder; asci subcylindrical; spores crowded or biseriate, oblong, obtuse, straight or slightly curved, .0008′–.001′ long, .0003 broad, three to five-septate with an occasional longitudinal septum, at first colorless, then yellowish.

Dead branches of prickly ash, *Xanthoxylum Americanum*. West Troy. Oct.

The species belongs to the Pseudovalsa series.

VALSA CRATÆGI *Curt.*

Dead ash branches. Catskill Mountains. Sept.

Our specimens do not fully agree with the description of the species to which we have referred them, but the differences are not very decided.

LOPHIOSTOMA SCHLEDTUM *C. & E.*

Decaying wood of apple tree. Helderberg Mountains. May.

LOPHIOSTOMA PROMINENS *Pk.*

Perithecia very prominent, hemispherical, adnate at the base, .07′–.08′ broad, smooth, black; ostiola distinct, compressed, black, shining; asci subclavate; spores biseriate, oblong or subfusiform, straight or slightly curved, colored, five-septate, .0008′–.001′ long.

Dead twigs of button-bush, *Cephalanthus occidentalis*. Center. June.

The species is related to *L. bicuspidatum*, but the perithecia are not immersed, and the spores are destitute of cuspidate points and longitudinal septa.

MASSARIA GIGASPORA *Desm.*

Dead branches of sheep-berry, *Viburnum Lentago*. Albany. May.

The spores in our specimens are .008′ long, and quadrilocular with the two central cells shorter than the terminal ones.

SPHÆRIA (VILLOSÆ) PULCHRISETA *Pk.*

Perithecia very minute, .003′–.004′ in diameter, superficial, numerous, at length collapsing, black, beautifully hispid with straight diverging black setæ; asci narrowly fusiform or lanceolate; spores narrow, subfusiform, colorless, .00025′–.0003′ long, the endochrome sometimes parted in the middle.

Chips in woods. Griffins. Sept.

Externally this fungus has the appearance of some species of Venturia, but it appears to have paraphyses among the asci.

SPHÆRIA FIMISEDA *Ces. & De Not.*

Excrement of cows. Oneida. *Warne.*

SPHÆRIA CLADOSPORIOSA *Schw.*

Old *Polyporus sulphureus*. Buffalo. Apr. *Clinton.*

This, as Berkeley remarks, is not a true Sphæria, but as the specimens are not in condition to show its true relations, it is left where Schweinitz placed it.

SPHÆRIA PHELLOGENA *B. & C.*

Corky bark of elm. Bethlehem. May.

SPHÆRIA (CAULICOLÆ) CURVICOLLA *Pk.*

Perithecia small, .03′–.04′ broad, scattered or two to three confluently crowded, erumpent, at length naked, hemispherical, black; ostiola short, subcylindrical, slightly curved; asci oblong; spores crowded or biseriate, colorless, .0006′–.0009′ long, .0003′ broad.

Dead stems of *Polygonum articulatum*. Center. Oct.

The noticeable character of this species is its short curved ostiolum, which is usually bent upwards toward the top of the stem on which the Sphæria grows. It is generally cylindrical, but sometimes slightly attenuated, sometimes a little compressed.

SPHÆRIA (CAULICOLÆ) SOROHOPHILA *Pk.*

Perithecia very minute, immersed, erumpent through a longitudinal chink, elliptical, black; asci elongated, clavate; spores biseriate, oblong-cylindrical, triseptate, constricted at the septa, pale when young, then colored, .0011′–.0012′ long.

On the brush of an old broom. North Greenbush. June.
The ostiola are so obscure that they can with difficulty be seen.

SPHÆRIA TYPHÆ *Schw.*

Decaying leaves of *Typha latifolia.* Greenbush. May.

SPHÆRIA GNOMON *Tode.*

Fallen leaves of *Ostrya Virginica.* West Troy. June.

SPHÆRIA CREPINI *West.*

Spikes of club-moss, *Lycopodium annotinum.* Mount Marcy. Aug.
The affected spikes become conspicuous by reason of the discoloration produced by the parasite. The scales appear slightly thickened or the epidermis a little elevated by the tomentose stratum beneath it.

SPHÆRIA MARCIENSIS *Pk.*

Perithecia minute, punctiform, covered by the epidermis, which is ruptured by the distinct slightly prominent blunt ostiola; asci oblong-cylindrical, sessile; spores crowded, subfusiform, blunt, slightly colored, triseptate, .001′–.0011′ long, .0003′ broad, the cells generally nucleate.

Leaves of club-moss, *Lycopodium annotinum* and *L. Selago.* Mount Marcy. Aug.
This species, though closely related to the preceding, is clearly distinct. It inhabits only the leaves, has no investing tomentum, has a more decided ostiolum and longer spores. The matrix is not discolored by it.

VENTURIA DICKIEI *De Not.*

Leaves of twin-flower, *Linnea borealis.* Mount Marcy. Aug.
I am not aware that this interesting little fungus has before been detected in this country.

(5.)

NEW STATIONS, NOTES AND OBSERVATIONS.

CIMICIFUGA RACEMOSA *Ell.*

Schodack, Rensselaer county. *Rev. H. Wibbe.* All the specimens of this plant that I have seen have the pods supported on a short stalk or pedicel, as figured and described by Dr. Torrey in the New York State Botany, although they are described in both the Manual and Class Book as sessile.

VIOLA CANADENSIS *L.* was observed in flower near Griffins, as late as the middle of September.

HYPERICUM PYRAMIDATUM *Ait.*

Near "Ball's Head," Rensselaer county. *Wibbe.*

ELATINE CLINTONIANA *Pk.*

Having recently reëxamined and compared the seeds of this plant and *E. Americana*, I find that the seeds vary somewhat, and that the differences which I formerly observed vanish when many specimens are compared. I am, therefore, of the opinion that the former is merely a dwarf state of the latter.

IMPATIENS FULVA *Nutt.*

A white-flowered form. Irondequoit. *G. T. Fish.*

RHUS TYPHINA *L.*

Apparently a hybrid between this and *R. glabra*. Fort Edward. *M. W. Vandenburg.*

POTENTILLA RECTA *L.*

Oswego. *Wibbe.*

LYTHRUM SALICARIA *L.*

River banks, near Oswego. *Wibbe.*

LONICERA CERULEA *L.*

Plentiful on the borders of Lake Tear. Mount Marcy.

NARDOSMIA PALMATA *Hook.*

Guilderland, Albany county.

SOLIDAGO LATIFOLIA *L.*

Apparently a hybrid between this and *S. cæsia*. Fort Edward. *Vandenburg.*

SOLIDAGO RIGIDA *L.*

Plentiful along the Harlem railroad at Copake. This is probably one of its most northern stations.

HIERACIUM AURANTIACUM *L.*

Meadows near Oswego. *Wibbe.* This plant appears to be rapidly spreading over the State.

VACCINIUM CORYMBOSUM *L.* V. ATROCOCCUM *Gr.*

This strongly marked variety occurs in Sandlake.

ATRIPLEX HASTATA *L.*

Spreading and becoming rather common about Albany.

MONTELIA TAMARISCINA *Nutt.*

Shore of Lake Champlain at Ticonderoga.

ULMUS AMERICANA *L.*

A corky-bark form of this tree occurs in the vicinity of Albany. The corky portion is in layers parallel to the surface of the trunk. I have not observed it on the branches.

SALIX MYRTILLOIDES *L.*

Marshes near Center, Albany county.

POTAMOGETON OAKESIANUS *Robbins.*

Wading River. *Miller.*

HABENARIA CILIARIS *R. Br.*

This most beautiful plant was detected near Manlius, by *Mr. Wibbe.*

TRILLIUM ERYTHROCARPUM *Mx.*

A monstrosity in which all the parts, except the stem and stigmas, appear to be double. There are six leaves, six sepals, six petals, twelve stamens, and apparently two ovaries closely united. The stigmas are numerous, but I have not been able to count them accurately. Oswego. *Wibbe.*

CHAMÆLIRIUM LUTEUM *L.*

Near Nassau, Rensselaer county. *Wibbe.*

SCIRPUS ERIOPHORUM *Mx.* V. CYPERINUS *Gr.*

Oswego. *Wibbe.*

RHYNCHOSPORA MACROSTACHYA *Torr.*

Shore of "Mud Pond," five miles southwest of Oswego. *Wibbe.*

BROMUS TECTORUM *L.*

Along the Hudson River railroad. Greenbush.

TRITICUM CANINUM *L.*

Buffalo. *Clinton.* This is a remarkable variety in which the leaves are involute and the sheaths hairy.

ASPIDIUM SPINULOSUM *Sw.* V. DUMETORUM *Sm.*

Syracuse. *Mrs. S. M. Rust.*

ASPIDIUM CRISTATUM *Sw.* V. CLINTONIANUM *Eaton.*

Buffalo. *Clinton.*

ASPIDIUM ACULEATUM *Sw.* V. BRAUNII *Koch.*

This beautiful fern proves to be more common than was at first supposed. I have observed it in three new localities the past season. Near Summit, Schoharie county; near Griffins, Delaware county; and in the Catskill Mountains, near Big Indian.

ONOCLEA SENSIBILIS *L.* V. OBTUSILOBATA *Torr.*

Syracuse. *Mrs. Rust.*

BOTRYCHIUM LUNARIA *Sw.*

Mrs. Rust sends specimens of this interesting fern from the original locality near Syracuse, where she first discovered it. She writes that the plants occur in but one little spot, and, with most commendable care for the preservation of the fern, she says that she cautiously plucks a few without taking them up by the roots. We sincerely hope that others who may possess the knowledge of this single New York locality, may be equally careful not to destroy it. It is greatly to be regretted that the locality of *Woodsia glabella*, at Little Falls, has been exhausted, and its loss should stimulate all true lovers of nature to be careful of such rare gifts.

Mrs. Rust finds, in Onondaga county, thirty-seven of the fifty species of ferns that have been detected in the State.

BOTRYCHIUM SIMPLEX *Hitch.*

Near Oswego. *Wibbe.*

BOTRYCHIUM LANCEOLATUM *Angst.*

Pine Hill, Ulster county.

AGARICUS RADICATUS *Relh.*

Two forms of this species occur here, one with a rather stout smooth stem, the other with a more slender stem covered with minute scurfy particles. The former agrees with the description of the species, the latter does not. This last is the most common form with us.

AGARICUS RUGOSODISCUS *Pk.*

This Agaric, when wounded, exudes a serum-like juice. It belongs to the subgenus Collybia rather than to Omphalia, and should be placed near *A. succosus.*

AGARICUS LACCATUS *Scop.*

This wonderfully variable species sometimes has the lamellæ notched behind precisely as in the subgenus Tricholoma.

AGARICUS HÆMATOPUS *Pers.*

I find a non-cæspitose form of this species with red-margined lamellæ. Its red juice, however, will serve to distinguish it and show its true relations.

AGARICUS SARCOPHYLLUS *Pk.*

This species, which was discovered in 1869, and had not since been found by me, reappeared this season in a pasture near Ticonderoga. It is very rare.

AGARICUS ARVENSIS *Schaff.*

In an oat field. Ticonderoga.

AGARICUS SEROTINOIDES *Pk.*

I am satisfied that this is a mere variety of *A. serotinus*, and should not be kept distinct. It is probable also that *A. perplexus* Pk. is only an American variety of *A. sublateritius*, from which it scarcely differs except in the color of the lamellæ.

COPRINUS ANGULATUS *Pk.*

The description of this species was drawn up from dried specimens, and is therefore inaccurate. It is here revised.

Pileus thin, campanulate or convex, rimose-sulcate, sub-fuscous, disk squamose, with a few brownish sub-persistent verrucæ; lamellæ narrow, close, free stem equal or slightly tapering upward, hollow, white; spores black, triangular-ovate, compressed, .0003′–.0004′ long, .0003′ broad, .0002′ thick.

CANTHARELLUS AURANTIACUS *Fr.*

Center. A variety with the lamellæ nearly white.

TROGIA ALNI *Pk.*

The spores are very minute, narrow, cylindrical, slightly curved, colorless, .0002′–.00025′ long.

POLYPORUS SCUTELLATUS *Schw.*

This species, as it occurs with us, is generally dimidiate, and more or less ungulate. The pores are not distinctly rhomboidal in most cases, nor have I seen them changed to a black color. In ungulate specimens they are elongated, and, in length, much exceed the thickness of the hymenophorum. In the young

state the pileus is clothed with a minute velvety villosity, but this disappears with age, and the pileus becomes either uniformly black or blackish variegated with paler zones, rarely wholly pale. I have met with it both on alder and witch-hazel.

RETICULARIA UMBRINA *Fr.*

In Dr J. Rostafinski's Monograph of the Myxogasters, *Reticularia lycoperdon* Bull, has been substituted for the name in common use. This Monograph, being based on an entirely new system of Classification, necessitates a change of name in numerous instances. How thoroughly different the system, and how wide spread the change of names therein inaugurated, may be inferred from the following facts. Of the hundred or more species given in the Handbook of British Fungi less than one-fourth remain under their old names. Three out of the four species of Reticularia are referred to as many different genera, leaving one species only in the genus and another specific name is given to that one. The generic name Fuligo takes the place of Æthalium, and the two supposed species, *Æ. septicum* and *Æ. vaporarium*, help make up a page of synonyms under the name *Fuligo varians*. The genus Diderma is discarded and its thirteen species are distributed among three genera, Chondrioderma taking the largest share. In several instances two, and in one or two cases three supposed species have been united in one. The genus Physarum has had its characters so modified that it now comprehends species that before were found in Diderma, Didymium and Angioridium; and one of its species, *Physarum nutans*, with its varieties, has been transferred to Tilmadoche and separated into two species.

The adoption of so many new names at once will necessarily be attended by some disadvantages, yet we think the advantages to be derived from the adoption of this new method of classification will more than compensate for the temporary inconvenience. One thing is quite evident to my mind, and that is, that the species may be more satisfactorily referred to their proper places by this system and by the descriptions, given by Rostafinski than they possibly could be by the old system and descriptions.

The following is a list of the New York Myxogasters at present known. The names in the first or left hand column are those required by and arranged according to the new system; those in the second column are the old names, applied to such of the species as have before been reported and published as New York species:

Present Names.	*Former Names.*
Physarum cinereum *Batsch.*	Didymium cinereum *Fr.*
P. contextum *Pers.*	Diderma flavidum *Pk.*
P. flavidum *Pk.*	Didymium flavidum *Pk.*
P. sinuosum *Bull.*	Angioridium sinuosum *Grev.*
P. polymorphum *Mont.*	Didymium connatum *Pk.*
P. albicans *Pk.*	D. subroseum *Pk.*
P. citrinellum *Pk.*	Diderma citrinum *Fr.*
P. luteolum *Pk.*	
P. inæqualis *Pk.*	
P. ornatum *Pk.*	
P. atrorubrum *Pk.*	
P. peittacinum *Dittm.*	
P. pulcherripes *Pk.*	Physarum pulcherripes *Pk.*
Tilmadoche nutans *Pers.*	P. nutans *Pers.*
T. mutabile *R.*	

Present Names.	*Former Names.*
Craterium leucocephalum *Pers.*	Craterium leucocephalum *Ditm.*
Leocarpus fragilis *Dicks.*	Leocarpus vernicosus *Lk.*
Fuligo varians *Sommf.*	Æthalium septicum *Fr.* Æ. ferrinoola *Schw.*
F. ochracea *Pk.*	Licea ochracea *Pk.*
Badhamia hyalina *Pers.*	
B. magna *Pk.*	Dictydium magnum *Pk.*
B. rubiginosa *Chev.*	Craterium obovatum *Pk.*
B. affinis *R.*	
Didymium farinaceum *Schrad.*	Didymium farinaceum *Fr.*
D. squamulosum *A. & S.*	D. squamulosum *A. & S.*
D. microcarpum *Fr.*	D. xanthopus *Fr.*
D. eximium *Pk.*	
D. angulatum *Pk.*	
Chondrioderma radiatum *L.*	Diderma umbilicatum *Pers.*
C. spumarioides *Fr.*	D. farinaceum *Pk.*
C. crustaceum *Pk.*	D. crustaceum *Pk.*
C. testaceum *Fr.*	D. Marine-Wilsoni *Clinton*
C. difforme *Pers.*	
C. Michelii *Lib.*	
Diachæa leucopoda *Bull.*	Diachæa elegans *Fr.*
D. splendens *Pk.*	
D. subsessilis *Pk.*	
Spumaria alba *Bull.*	Spumaria alba *DC.*
Stemonitis fusca *Roth.*	Stemonitis fusca *Roth.*
S. ferruginea *Ehr.*	S. ferruginea *Ehr.*
S. herbatica *Pk.*	
Comatricha æqualis *Pk.*	
C. typhina *Roth.*	S. typhoides *DC*
C. Friesiana *DeBy.*	
C. pulchella *Bab.*	
Lamproderma physaroides *A. & S.*	
L. violaceum *Fr.*	
L. arcyrioides *Sommf.*	S. oblonga *Fr.*
Amaurochæte atra *A. & S.*	
Tubulina cylindrica *Bull.*	Licea cylindrica *Fr.*
Clathroptychium rugulosum *Wallr.*	
Dictydium cernuum *Pers.*	Dictydium umbilicatum *Schrad.*
Cribraria intricata *Schrad.*	Cribraria intricata *Schrad.*
C. purpurea *Schrad.*	C. purpurea *Schrad.*
Reticularia lycoperdon *Bull.*	Reticularia umbrina *Fr.*
Trichia fallax *Pers.*	
T. varia *Pers.*	Trichia varia *Pers.*
T. scabra *R.*	T. chrysosperma *DC.*
T. chrysosperma *Bull.*	T. turbinata *With.*
T. reniformis *Pk.*	
T. inconspicua *R.*	
Hemiarcyria rubiformis *Pers.*	T. rubiformis *Pers.* T. pyriformis *Hoffm.*
H. clavata *Pers.*	T. clavata *Pers.*
H. serpula *Scop.*	T. serpula *Pers.*

Present Names.	*Former Names.*
Arcyria punicea *Pers.*	Arcyria punicea *Pers.*
A. incarnata *Pers.*	A. incarnata *Pers.*
A. cinerea *Bull.*	A. cinerea *Fl. Dan.*
	A. digitata *Schw.*
A. nutans *Bull.*	A. nutans *Fr.*
A. pomiformis *Roth.*	
Lachnobolus globosus *Schw.*	A. globosa *Schw.*
Oligonema flavida *Pk.*	Perichæna flavida *Pk.*
O. brevifila *Pk.*	
Perichæna cæspitosa *Pk.*	Physarum cæspitosum *Pk.*
P. corticalis *Batsch.*	
P. irregularis *B. & C.*	
Lycogala epidendrum *Bux.*	Lycogala epidendrum *L.*
L. flavo-fuscum *Ehr.*	

Didymium oxalinum Pk. is probably only a form of *Physarum cinereum*, and is therefore omitted. *Dictydium microcarpum* received from Dr. Howe, is *Lamproderma physaroides* A. & S., and *Didymium simulans* Howe, is *Badhamia hyalina* Pers.

Of *Physarum sinuosum*, two varieties have occurred; one with the outer walls of the sporangium ochraceous, the other, with them nearly black.

Physarum citrinellum appears to be quite distinct from *Diderma citrinum*, to which it was referred. The following is a description of it:

Sporangia subglobose, double-walled, the outer wall crustaceous, yellow, the inner very delicate, whitish; stem very short, reddish; capillitium whitish or slightly tinged with yellow, its knots numerous, large; spores blackish in the mass, globose, minutely rough, .0004′–.0005 in diameter.

Mosses. Catskill Mountains.

The stem is so short that the sporangia appear sessile. The doublewall of the sporangium prevents the reference of the species to *Physarum Schumacheri*.

FULIGO VARIANS *Sommf.*

The widely variant forms that are brought together under this name by Dr. Rostafinski, present to the eye such diverse appearances, that it is difficult to believe that they should all be united. The forms with a floccose æthalium like the old *Æ. septicum*, *Æ. vaporarium* and *Æ. ferrincola* are readily united, but those with a crustaceous æthalium would appear rather to constitute another species, while the form with a naked gyrose surface seems still more worthy of specific distinction. Aside from its external peculiarities, its internal structure strengthens the idea of its specific validity. Nevertheless, it must be admitted that the spores are so nearly alike in all the forms, that they do not confirm the differences exhibited externally. I am of the opinion, however, that the last-mentioned form will yet be separated from the others, and also that *Fuligo ochracea* does, and will equally merit specific distinction, and for this reason I have not united it with the others. *Æthalium geophilum* Pk. is not an Æthalium, nor even a Myxogaster. It is probably *Hyphelia terrestris* Fr.

BADHAMIA MAGNA *Pk.* (*Dictydium magnum* Pk.).

Perhaps some may regard this as a form of the very variable *Badhamia utricularis*. It approaches *B. utricularis* v. *Schimperiana*, but differs clearly in its larger size and *globose* sporangia, with *reticulately corrugated* walls.

DIDYMIUM MICROCARPUM *Fr.*

D. nigripes Fr. and *D. xanthopus* Fr. have been united under this name. To an observer of their external characters they appear quite distinct. Both forms occur with us, the former on fallen leaves, the latter on living Sphagnum.

CHONDRIODERMA TESTACEUM *Fr.*

A form of this species, with the outer walls of the sporangium a clear white with no tinge of pink, is quite common.

CHONDRIODERMA SPUMARIOIDES *Fr.*

Our specimens (*Diderma farinaceum* Pk.) abound in lime granules, and belong to the variety *carcerina*.

STEMONITIS HERBATICA *Pk.*

Though resembling *S. ferruginea* in color, this species is easily distinguished from it by the comparatively shorter stem, larger meshes of the capillitium and decidedly larger spores, which frequently attain a diameter of .0004 inch, nearly twice the usual dimensions of the spores of *S. ferruginea*. There is a small form of *S. ferruginea*, which is nearly equal to *S. herbatica* in size, but it is true to the characters of its own species, and would not be confounded with *S. herbatica* after an examination of its spores.

HEMIARCYRIA CLAVATA *Pers.*

The threads of the capillitium in our specimens are much larger than is indicated in the description of the species. Their diameter is about equal to the diameter of the spores, and about twice the diameter ascribed in the description.

SPHÆROPSIS MALORUM *Berk.*

This sometimes attacks apples while yet hanging on the tree.

PESTALOZZIA PECKII *Clinton.*

According to specimens received from Europe, this is not distinct from *P. monochæta* Desm.

CONIOTHECIUM TORULOIDEUM *B. & C.*

The fungus thus referred in the Twenty-third Report, and more recently regarded at different times as *Torula stilbospora* Cd. and *Trimmatostroma Salicis* Cd., has recently been published as *Trimmatostroma Americana* Thumen. We hope it has finally found a permanent resting place under this name. It forms numerous small black dusty dots on dead branches of willows, and stains or crocks the fingers handling it.

SEPTONEMA BICOLOR *Pk.*

Owing to the delay in the issue of the Twenty-eighth Report, this name is antedated by *Sporidesmium Peziza C. & E.*

BACTRIDIUM FLAVUM *Kze.*

The specimens formerly referred to this species fall more properly under the more recent species *Bactridium Ellisii* Berk.

PUCCINIA MENTHÆ *Pers.*

On *Pycnanthemum incanum*. Bethlehem.

PUCCINIA SPRETA *Pk.*

Leaves of *Mitella nuda.* Buffalo. *Clinton.* Leaves of *Mitella diphylla.* Griffins.

PUCCINIA STRIOLA *Lk.*

Leaves of *Carex irrigua.* Summit.

USTILAGO URCEOLORUM *Tul.*

Fruit of *Carex irrigua.* Mount Marcy. The spores in these specimens are large and much less angular and unequal than usual.

STILBUM GIGANTEUM *Pk.*

I find this associated with *Patellaria leptosperma Pk.* in such a way as to suggest the probability, at least, that it is a form of the latter species.

HELVELLA SULCATA *Afz.*

The prominent character in this species, as indicated by the name, is the sulcate stem. The furrows are very deep, and extend, without interruption, the entire length of the stem. The whole stem, as shown by a cross-section, is made up of the costæ intervening between these furrows. I do not find the stem "stuffed," as required by the description in *Syst. Myc.* Vol. ii, p. 15. The pileus is generally darker than that of *H. crispa.*

Our New York species of Helvella readily fall into three groups depending on the character of the stem. The following tabular arrangement will exhibit this feature, and aid in tracing the species.

New York Species of Helvella.

Stem even, stout, three lines or more in diameter.	
Pileus inflated, gyrose-lobate.	
Spores elliptical	H. esculenta *Pers.*
Spores globose	H. sphærospora *Pk.*
Pileus deflexed, lobate, spores elliptical	H. infula *Schaff.*
Stem costate-sulcate, stout.	
Pileus white	H. crispa *Fr.*
Pileus colored	H. sulcata *Afz.*
Stem even, slender, less than two lines thick.	
Stem glabrous	H. gracilis *Pk.*
Stem velvety-pruinose	H. elastica *Bull.*

The first and second species in the table belong to the more recent genus Gyromitra. The last one, *H. elastica*, is sometimes nearly black, and is, perhaps, then, *H. atra.* These two, according to the descriptions, have the pileus free, but in our plant it is sometimes adnate to the stem. *H. lacunosa* and *H. ephippium* have not yet occurred with us.

CENANGIUM CERASI *Fr.*

This is not limited to cherry in its habitat, but occurs also on birch.

XYLARIA DIGITATA *Grev.*

One of our most common Xylarias agrees with the characters ascribed to this species, except in the size of the spores. These are described as .0007'–.0008' long. In our plant they are about .0005 long. Because of its short spores, it has sometimes been referred to *X. Hypoxylon;* but in this species the stem should be villose, a character which our plant does not exhibit. The difference between its spores and those of *X. digitata* is so marked and so constant that it should not be disregarded. I therefore propose to distinguish

our plant as a variety, giving it the name *X. digitata* var. *Americana*. It is frequent on decaying wood and old prostrate mossy trunks.

The following tabular arrangement will exhibit the principal distinguishing features of the New York species thus far reported:

New York Species of Xylaria.

Club everywhere fertile, obtuse.	
Spores .0006'-.0012' long	X. polymorpha *Grev.*
Spores .0004' long	X. corniformis *Fr.*
Club sterile above, subacute or attenuated.	
Sterile apex short, subacute.	
Club irregular, subovate, large	X. grandis *Pk.*
Club regular, subcylindrical	X. acuta *Pk.*
Sterile apex acuminate or attenuated.	
Stem short, villose	X. Hypoxylon *Grev.*
Stem not villose.	
Perithecia numerous, little prominent.	
Stems generally connate at the base or digitately branched	X. digitata *Grev.*
Stems always simple	X. graminicola *Ger.*
Perithecia few, very prominent	X. filiformis *A. & S.*

In *X. acuta* the short, sterile apex sometimes appears like a short mucronate point, and sometimes it is quite obsolete, so that the plant might be mistaken for *X. corniformis*, but for its larger spores. Its thicker club, simpler habit, and peculiar apex, separate it from *X. digitata*.

X. graminicola might easily be taken for a simple form of *X. digitata* v. *Americana*. *X. Hypoxylon* is extremely rare with us.

SPHÆRIA EXIMIA *Pk.*

Owing to the delay in the issue of the Twenty-eighth Report, the name of this species was antedated by *S. amphicornis* Ellis.

SPHÆRIA MORBOSA *Schw.*

This deleterious fungus was found on branches of the wild black cherry, *Prunus serotina*, in Keene Valley, Essex county. It is now known to occur on *Prunus domestica*, *P. Americana*, *P. Cerasus*, *P. Virginiana*, *P. Pennsylvanica* and *P. serotina*. Two of these are plum-trees—one introduced, the other native—and the remaining four are cherry trees, of which the three last are indigenous.

In the preceding pages, when no name is added to the station or stations, the plant has been found therein by the writer. Dates signify the time when the specimens were collected, and therefore indicate, to some extent, the time of the occurrence of the plant.

Grateful acknowledgements are rendered to those Botanists who have kindly aided me by contributions of specimens. Their names appear in the preceding pages.

Respectfully submitted,

CHARLES H. PECK.

ALBANY, *January* 4, 1878.

1878

REPORT OF THE DIRECTOR.

ALBANY, *January*, 1879.

To the Honorable the Board of Regents of the University of the State of New York:

GENTLEMEN — I have the honor to communicate herewith the Annual Report of the State Museum of Natural History, giving some general account of the conditions of the collections in the several departments, the additions which have been made, and the work done in the Institution during the past year; together with special communications upon subjects under investigation by persons connected with the Museum.

I am able to report that the collections of the Museum in every department are in good condition, and satisfactorily arranged for the purposes of examination and study. The labeling and rearrangement of the geological collection, which in my last report I mentioned as in progress, has been completed, and the entire series is now presented in satisfactory order.

The want of room for the arrangement of the rapidly increasing collections in geology and palæontology is every year more severely felt by the Director and by those aiding in the work. Under existing circumstances it is quite impossible to present any tangible evidence of the progress of our work, and it is nearly impracticable to find the means of putting on exhibition any portion of the collections which have been made, or specimens which have been specially prepared for the Museum during several years past. We are also suffering many inconveniences for the want of proper working rooms attached to the Museum, where the work of progress in all departments could be witnessed by the trustees, and by any parties interested in the prosperity of the Institution.

I beg to repeat what I have said in a previous report, that we need at this time, for the proper exhibition of the geological and palæontological collections acquired during the past few years, a space equal to another story or floor of the same area as those of the present Museum; while also the crowded condition of the skeletons and osteological collections is such that we need as much more space as is now occupied by them.

I call attention to these points, while knowing that it is not, at present, in the power of the Regents to grant any relief; but in order that they may appreciate the necessity which exists of doing much of the work beyond the walls of the Museum building.

In the general zoölogical arrangement, it is a matter of very great interest and importance that the collection of birds should be rearranged, the wanting species supplied, and the whole collection labeled according to the present state of our knowledge of the subject. Beyond this, moreover, some new information is desirable regarding the general and local distribution, the migration, habits, breeding, etc., of the birds which are known as the birds of New York, as well as of those which only pass through the State in their migrations north and south. While so much attention is being given to this subject in some of the States, and especially in the Western States and territories, it is scarcely becoming that a State which gave the lead in such investigations, and in the diffusion of a knowledge of natural history, should any longer remain inert in this special department of natural science.

I shall have the pleasure of presenting to your honorable body a special communication upon this subject, from which you will be able to learn in a more satisfactory manner the nature of the work to be done, and which when done will give an important rank to our ornithological collection, which at present is of little value to science. At the same time, the facts thus obtained and published will be a valuable source of information to the people of the State.

Details of the additions to the Museum in its several departments will be found appended. The donations have been unusually few during the past year.

To the Botanical department contributions have been received from seventeen persons, making in all fifteen hundred and fifty-two species.

To the Zoölogical department contributions have been made by twelve persons.

To the Ethnological department two contributors only are recorded.

In this department, contributors to the Museum have greatly diminished in number during the past few years, from the fact that such subjects have come to have a pecuniary value; and, also, that there are numerous collectors and institutions in the State who are competitors with the State Museum.

This condition of things will continue; and if it be thought desirable to increase the collections in this department, it will be necessary to make special collections, or to purchase from those who have made them. Several offers of the sale of collections have been made to the Museum during the year, but having no means at our disposal for such purposes, no present encouragement has been given to the applicants.

To the Mineralogical and Palæontological department four donors are recorded.

To the Library, contributions have been made by twenty societies and eight individuals, of twenty-three bound volumes, and eighty-nine in paper covers and pamphlets, all but thirteen of these being serials. From all sources, the additions to the Library have been forty-two bound volumes, and of volumes in paper and pamphlets (chiefly serials), one hundred and forty-one.

A donation of the extensive botanical collection of the late Dr. Anthony Gescherdt has been kindly made to the Museum by Madame Gescherdt, through Hon. Alexander Thain, of New York. The collection contains 1,479 species, all of which are labeled. These are chiefly European species, but there are some from the United States, the West Indies, etc. A list of the species, as they were arranged in the twenty-two packages when received, has been made by Mr. Peck. This list, when fully classified, will be communicated with the report upon the State Museum.

GENERAL WORK OF THE MUSEUM.

In the Botanical department the accompanying report of the Botanist, Mr. C. H. Peck, will indicate the work done by himself, and the addition to the Herbarium of one hundred and sixty-five mounted species of plants which were not previously represented in the collection.

To the Zoölogical department some interesting specimens of worms, insects, crustaceans and fishes have been added, through the collections of Mr. Lintner, at Caledonia creek, made at the request of the State Commissioners of Fisheries. Such of the animal forms as could be obtained during the winter season at this interesting locality, were carefully collected and critically studied, with especial reference to their value as fish food, and the practicability of their transplantation into other streams of the State which are less prolific in the forms so remarkably abundant at Caledonia. The results of this examination have been published in the Tenth Annual Report of the State Commissioners of Fisheries.

The alcoholic collection of specimens has been in part relabeled, the jars replenished with fresh alcohol, and the recent donations and collections incorporated.

To the Osteological collection there have been added about fifty specimens, including thirty-three prepared skulls.

A large number of recent shells have been cut into sections for illustrating their internal structure, and about one hundred specimens of this character have been added to the collection.

The additions to the Ethnological collections, filling nearly two cases, have been arranged and labeled. The series of Table-cases, containing stone or Terra-cotta specimens, occupies one hundred and thirty-six square feet of area. Several additional cases are necessary for a proper exhibition of the material.

In the Mineralogical department additional work has been done upon the general collection, by the incorporation of other material belonging to the Museum. The arrangement and labeling has been completed, and the collection is now ready for cataloguing.

A series of Volcanic rocks and minerals, from the Van Rensselaer collection, has been labeled and arranged in three Table-cases.

The Emmons collection of crystallised minerals has been fully labeled, in conformity with the other mineralogical collections. A considerable number of duplicate minerals, derived from various sources, still remain in the drawers.

The work of rearranging and labeling the geological series contained in the wall cases of the first floor, which was in progress at my last report, has been completed during the year. The collection is now accessible for examination and study. The smaller specimens have been mounted, uniformly with the mineralogical collection. The labels indicate the number of the specimen, its geological position, name, contained fossils in many instances, and locality. This collection is especially intended to illustrate the geological formations of the State, exclusive of the palæontological collections, and some idea may be formed of the extent to which this object is carried, by a glance at the schedule below, which shows the number of labeled specimens in each formation:

System.	Group.	Formation.	No of specimens.
Laurentian	Lower		99
	Upper		101
Huronian			84
Lower Silurian. (Cambrian of Sedgwick)	Potsdam		60
	Quebec	Calciferous Sandstone	65
		Shales and Sandstone	108
		Chazy Limestone	70
	Trenton	Birds-eye Limestone	45
		Black-river Limestone	32
		Trenton Limestone	122
	Hudson River	Utica Slate	55
		Hudson-river Shales	101
		Gray Sandstone	15
		Shawangunk Conglomerate,	15
		Medina Sandstone	100
Middle Silurian	Clinton		110
	Niagara	Niagara Shaly Limestone	105
		Guelph	10
		Coralline Limestone	32
Upper Silurian	Onondaga Salt		110
	Waterlime		58
	Lower Helderberg	Tentaculite Limestone	47
		Lower Pentam. Limestone,	56
		Shaly Limestone	109
		Upper Pentam. Limestone	15

System.	Group.	Formation.	No. of specimens.
Devonian	Upper Helderberg	Oriskany Sandstone	86
		Cauda-galli Grit	23
		Schoharie Grit	51
		Onondaga Limestone	30
		Corniferous Limestone	92
	Hamilton	Marcellus Shale	67
		Arenaceous and other Shales	146
		Tully Limestone	59
		Genesee Slate	14
	Portage		75
	Chemung		149
	Catskill		74
Carboniferous			78
	New Red Sandstone		47
Quaternary			90

A colored Geological Section, exhibiting the order of succession of the New York formations, has been placed above the wall-cases, extending around the room, and so arranged that the representation of the succession of the formations corresponds with the series in the cases. The section is distinctly lettered with the names and subdivisions of each formation, and, in connection with the series immediately beneath it, affords a source of instruction to the student or amateur which has not before been presented in the Museum.

DUPLICATE COLLECTIONS OF FOSSILS AND MINERALS.

Pursuant to the direction of the Secretary of the Board of Regents, one of the duplicate series of specimens prepared for the Norman Schools has been sent to the State Normal and Training School at Cortland. Six of the Normal Schools of the State have now received the collections; others still remain, subject to application to the Board of Regents, and their direction.

COLLECTIONS IN THE FIELD.

Extensive collections have been made in the field during the past season. In the western part of the State, during May and June, Mr. C. D. Walcott, assisted by Mr. Vandeloo, made large collections of corals and other fossils from the upper Helderberg limestone and the Hamilton group. At a later period Mr. Walcott continued collecting, especially fossil corals, in the limestones of Genesee and Erie counties; and also in the same limestones in Canada West, and at Kelly's Island in Lake Ontario.

During the months of July and August, Dr. J. W. Hall, assisted by Martin Sheehy, made extensive collections, chiefly of fossil corals, from the Upper Helderberg limestones of Albany county. Dr. Hall has also made a geological examination along the Hudson river as far as Poughkeepsie, making sections and extensive and instructive collections of the rocks from fifty-one localities. These collections will be of important aid in the study of the rocks of the Hudson River Valley, and in the determination of their geological age and relations.

The entire collections made during the past season will number at least thirty thousand specimens.

The work of cutting sections of rocks and fossils, chiefly of the latter, has been continued with great success; and the machinery, and work of this kind,

have become a necessity in the Museum organization. A large amount of work has been done in cutting and preparing transparent sections of corals, stromatopora, sponges, etc. Between three and four hundred specimens have been prepared. About one hundred and fifty specimens of corals, orthoceratites and other fossils have been ground and polished, to show the internal structure. So long as the fossils of the Museum are being studied and illustrated, this machinery will be of constant and important use.

In addition to the work of cutting and preparing sections of fossils, the machinery has been applied to the cutting of recent shells, and more than one hundred specimens have been prepared, giving a most instructive exhibition of the internal structure. Preparations of this kind are of the greatest interest and importance in the study of the characters of recent shells, especially of the Gasteropeda, and this collection cannot fail to be appreciated by every student of natural history who visits the State Museum. This department is under the management of Dr. J. W. Hall.

The extensive collections made during 1877, and already communicated in a previous report, have been partially examined, and selections made as far as practicable, and as far as we have drawers for their reception. The large collection of Niagara fossils from Waldron, made in that year, has been unpacked and cleaned, the species separated, and a large part of them ticketed. The Bryozoa of this collection have been carefully studied, in connection with those of the Lower Helderberg group, by Mr. G. B. Simpson. Mr. C. E. Beecher has also spent a much longer time upon the Waldron collection in the careful study and separation of the species of all the other classes, and the selection of a large series for the State Museum collections.

Although these collections are now arranged in drawers, it will be necessary to repack a considerable portion for want of proper accommodations. In the meantime many new species have been selected and determined, which will be illustrated and described in future reports of the Museum.

The large collections from the Lower Helderberg limestone have furnished many new species, which will be included in the plates now being lithographed for the Palæontology of the State.

In conclusion, I beg leave to say, that the field collections in Geology and Palæontology, and the work done upon them in preparing specimens for the Museum and for study, is in every way satisfactory, and more than equals my expectations. I would therefore most earnestly, and respectfully, urge upon the Board of Regents the desirableness and importance of continuing the same system of work, and in the same hands, for the ensuing year.

I am, very respectfully, your obedient servant,

JAMES HALL,

Director of the State Museum.

ADDITIONS TO THE STATE MUSEUM DURING THE YEAR 1878.

I. BOTANICAL.

A specimen of *Solidago virgaurea* L. From Prof. P. A. Puissant, Troy, N. Y.

Seven flowering plants; two new to the State Herbarium. From Addison Brown, New York.

Specimens of *Cynophallus caninus* Fr. From H. A. Warne, Oneida, N. Y.

Two rare Fungi—*Polyporus Morgani* Frost and *Agaricus Morgani* Peck. From A. P. Morgan, Dayton, O.

Polyporus tomentoso-quercinus Johns. From A. M. Johnson, Minneapolis, Minn.

Podaxon Warnea Peck. From W. F. Bundy, Sauk City, Wis.

Lentinus Lecontei Fr. and *Lycoperdon leprosum* B. & R. From H. W. Ravenel, Aiken, S. C.

Zygadenus glaucus Nutt. From L. M. Underwood, Syracuse, N. Y.

Listera australis Lindl. and *Botrychium simplex* Hitch. From Rev. H. Weber, Oswego, N. Y.

Micromitrium Austinii Sulliv. From C. A. Austin, Closter, N. J.

Salix petiolaris Sm. From M. S. Bebb, Fountaindale, Ill.

Tramates suaveolens Fr. and *Polyporus cuticularis* Fr. From W. C. Stevenson, Philadelphia, Pa.

Six species of flowering plants; one new to the State Herbarium. From S. H. Wright, M. D., Penn Yan, N. Y.

Twenty-three species of Fungi. From J. B. Ellis, Newfield, N. J.

Three species of flowering plants and ten species of Fungi; eight species new to the State Herbarium. From Hon. G. W. Clinton, Buffalo, N. Y.

Nine species of Fungi. From E. A. Rau, Bethlehem, Pa.

One hundred and sixty-five species of plants, new to the State Herbarium. Collected by the Botanist, C. H. Peck.

A collection of 1,479 species of plants, principally European, made by Dr. Anthony Gescherdt.

II. ZOÖLOGICAL.

Right mandible of the lower jaw (13 ft. 4 in. long) of a Greenland whale (*Balæna mysticetus*), which floated ashore at Rockaway Beach in 1875. From E. Gee, Albany, N. Y.

A blunt-nose shiner—*Vomer setapinnis* (Mitch.). New York coast. From J. B. Hotaling, Albany, N. Y.

A gold-fish—*Cyprinus auratus* L., with greatly enlarged abdomen from an ovarian tumor; length of body, 9.5 inches; circumference, 11.5 inches. From Edward Seib, Albany, N. Y.

A hen's egg of abnormal form (*gourd-shaped*). From H. GERMOND, Nassau, N. Y.

Two specimens of Carrara marble honeycombed by a boring sponge—*Cliona sulphurea* Verrill—taken from the hold of a vessel wrecked on the coast of Long Island in 1871. From E. R. MCCARTY, Hotel Brunswick, New York, per Prof. D. S. Martin.

Ascaris——sp? in 35 examples, taken from a piece (4x4 inches) of a salted codfish. From C. DEVOL, M. D.

An ichneumon-fly—*Rhyssa atrata* (Fabr.). From ANDREW HUTTON, Albany, N. Y.

Eggs (in soil) of the Rocky Mountain locust—*Caloptenus spretus* Thomas, Minnesota. Large spider—*Nephila plumipes*, from Florida. From J. A. LINTNER.

Pupa of Sphinx at pupation, Albany, N. Y.
Larvæ (4) of *Samia Cecropia* (Linn.), Albany, N. Y.
Larvæ (15) of *Datana ministra* from birch, Albany, N. Y.
Larvæ (4) of *Dryocampa rubicunda* (Sm.-Abb.), New York city.
Larva of *Cœlodasys unicornis* (Sm.-Abb.), Albany, N. Y.
Larva of *Thyreus Abbotii* Swains., Albany, N. Y.
Larva of *Danais Archippus* (Fabr.), Albany, N. Y.
Larvæ (5) of *Orgyia leucostigma* (Sm.-Abb.), Albany, N. Y.
Larvæ (25) of *Chironomus* sp., Caledonia creek, N. Y.
Larvæ (33) of Ephemeridæ—*Cloë* sp., Caledonia creek.
Larvæ (3) of *Æschna verticalis*, Caledonia creek.
Larvæ (8) of Limnophilidæ, near *Hallesus* (caddis worms), Caledonia creek.
Caddis-worm from a hollowed stem case, Caledonia creek.
Larva-cases (18) of one of the Hydroptilæ, *Phixocoma* sp., Caledonia creek.
Larva-cases (37) of a species of the Limnophilidæ, Caledonia creek.
Larvæ (2) of a Dytiscid beetle—*Gaurodytes* sp., Caledonia creek.
Pupæ (many) of a fly, from water, Warren Co., N. Y.
Fresh-water craw fish (6)—*Cambarus Bartonii* (Fabr.), Caledonia creek.
Fresh-water shrimp (86) *Gammarus fasciatus* Say.,* Caledonia creek.
Miller's thumbs (6)—*Cottus gracilis* Heckel, Caledonia creek.
Sticklebacks (23)—*Gasterosteus inconstans* Kirtl., Caledonia creek.
Collection by J. A. LINTNER.

Honey-bees—*Apis mellifica* Linn., drones, workers and (3) queens. From WILLIAM HALL, Middletown, Delaware Co., N. Y.

A red-shouldered buzzard—*Buteo lineatus* (Gm.), taken at Canajoharie, N. Y., Dec. 19th. From A. G. RICHMOND, Canajoharie, N. Y.

Strombus gigas Linn. (4) and *Cypræa tigris* Linn. (3), for cutting sections. From JAMES HALL.

A hermit crab—*Eupagurus longicarpus* (Say.), in a new preservative liquid. From ERASTUS CORNING, JUN.

Twenty-three species of Mollusca and one of Vermes, as follows: *Helix Californica* Lea, California; *H. Stearnsiana* Gabb, San Deigo; *H. facta* Newcomb, Santa Catelina; *H. Yatesii* Cooper, California; *H. Bowditch-*

* For the illustration of, and remarks upon, this and several of the above Caledonia forms, see Report on the Insect and other Animal forms of Caledonia creek.

tissa Fer., Madeira; *H. delphinula* Lowe, Madeira; *H. undata* Lowe, Madeira; *H. arvillacta* Lowe, Madeira; *H. crebescens* Lowe, Madeira; *H. Maderensis* Wood, Madeira; *H. polymorpha* Lowe, Madeira; *H. subtilis* Lowe, Madeira; *H. paupercula* Lowe, Madeira; *H. abjecta* Lowe, Madeira; *H. bifrons* Lowe, Madeira; *H. lurida* Lowe, Madeira; *H. Stephanophora* Dillwyn, Madeira; *H. thiarella* Webb, Madeira; *Stenotrachia Magdalensis* Hinds, Cal.; *Ringicula conformis* Montero Santo, Madeira; *Aryyopa decollata*, Chenu; *Bulimus nigrofasciata* Pfeif., Santa Fe de Bogota; *B. serenyi* Pfeif., Santa Fe de Bogota; *Ditrupa acuta* Hayes. From W. NEWCOMB, M. D., Ithaca, N. Y.

III. MINERALOGICAL AND PALÆONTOLOGICAL.

Fine calcite; Pitkin, St. Lawrence Co., N. Y. Hexagonite; Edwards, St. Lawrence Co., N. Y. Purchased of P. P. PECK.

Two specimens of Selenite; Yawger's quarries, near Springport, Cayuga Co., N. Y. From Messrs. J. C. & H. YAWGER.

A block of Magnetite, 52x18x20 inches, from the Tilly-Foster Mine, Putnam Co., N. Y. From H. T. DURANT.

Four crystals of Gypsum; Camillus, N. Y. A slab of Gypsum, with crystallised native Sulphur; Marcellus, N. Y. From FREDERICK STAR, Auburn, N. Y.

Rock borings from an Artesian well at Wyoming, N. Y., arranged in a glass tube to show the comparative thickness of the beds traversed. Purchased for the Museum.

The Emmons Collection of Crystals and Crystallised Minerals, principally from Northern New York. (Purchased in 1877, but not included in the list of additions in that year.)

Columnaria sulcata; Jefferson Co. (? Theresa), N. Y. From R. S. PALMER, North Lawrence, St. Lawrence Co., N. Y.

IV. ARCHÆOLOGICAL.

Indian pottery (twelve pieces), Loudonville, Albany county, N. Y.
Indian pottery (fifteen pieces), Guilderland, Albany county, N. Y.
Pieces of chert from a locality in Loudonville, to which they had probably been brought for working into arrow-heads.
Four gun-flints.
Chert chips from an Indian arrow-head locality, near New Albany, Ind. From F. E. ASPINWALL, M. D., Loudonville, N. Y.

A copper hand-axe, of aboriginal manufacture, dug up on the farm of the donor. From E. V. COLLINS, Stuyvesant, N. Y.

Four trays of Indian arrow and spear heads, as follows:
No. 1. Fifteen arrow and spear heads of chert, Loudonville, N Y.
No. 2. Seventeen arrow and spear-heads of chert, etc., Guilderland, N. Y.
No. 3. Twenty arrow-heads of chert, Guilderland, N. Y.
No. 4. Thirteen arrow and spear heads of chert, etc., near New Albany, Ind.
A piece of sandstone (? a hammer stone) with pittings and excavations on two opposite sides, near West Albany, N. Y.
Deposited in the collection by F. E. ASPINWALL, M. D., subject to call.

V. TO THE LIBRARY.

1. BY DONATION.

Department of the Interior. Bulletin of the United States National Museum. No. 10. Contributions to North American Ichthyology, No. 2. By David S. Jordan. Washington: 1877. 8 vo., pp. 120, plates 45.

Do.———————. Bulletin of the U. S. Geological and Geographical Survey of the Territories. Vol. IV, Nos. 1 and 2. Washington: Feb. 5, 1878, and May 8, 1878. 8 vo., pp. 543.

Do.———————. Miscellaneous Publications, No. 9. Descriptive Catalogue of Photographs of North American Indians. By W. H. Jackson. Washington: 1877. 8 vo., pp. 124.

Do.———————. Miscellaneous publications, No. 10. Bibliography of North American Palæontology. By C. A. White, M. D., and H. A. Nicholson. Washington: 1878. 8 vo., pp. 132.

Do.———————. Preliminary Report of the Field Work of the U. S. Geological and Geographical Survey of the Territories, for the Season of 1867, under direction of Prof. F. V. Hayden. Washington: 1877. Pamph., 8 vo., pp. 35.

Do.———————. Report on the Geographical and Geological Survey of the Rocky Mountain Region. By J. W. Powell. Washington: 1877. Pamph., 8 vo., pp. 19.

Do.———————. U. S. Geological and Geographical Survey of the Territories. Geological and Geographical Atlas of Colorado and Portions of Adjacent Territory. By F. V. Hayden, U. S. Geologist-in-charge. 1877. Folio, 20 sheets.

Do.———————. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Contributions to North American Ethnology. Vol. III. Washington: 1877. Quarto, pp. 685.

Do.———————. Report of the U. S. Geological Survey of the Territories. F. V. Hayden, U. S. Geologist-in-charge. Vol. VII. Contributions to the Fossil Flora of the Western Territories. Part 2. The Tertiary Flora. By Leo Lesquereux. Washington: 1878. Quarto, pp. 366, plates lxv.

From the DEPARTMENT OF THE INTERIOR.

Fifty-eighth and Fifty-ninth Annual Reports of the Trustees of the New York State Library, for the years 1875 and 1876. Albany: 1876 and 1877. Two pamphlets, 8 vo., pp. 171, 181.

Address of Erastus C. Benedict, LL. D., at his taking the chair at the University Convocation, at the Capitol, in the city of Albany, July 9, 1878. Albany: 1877. 8 vo., pamph. pp. 19.

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From the REGENTS OF THE UNIVERSITY.

Smithsonian Miscellaneous Collections. No. 283. Catalogue of the Fishes of the East Coast of North America. By Theodore Gill, M. D., Ph. D. Washington: 1873. Pamph., 8 vo., pp. 50.

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From the BUREAU OF EDUCATION—DEPARTMENT OF THE INTERIOR.

U. S. Commission of Fish and Fisheries. Part III. Report of the Commissioner for the years 1873–4 and 1874–5. Washington: 1876. 8 vo., pp. LI+777.

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From the Commissioner, SPENCER C. BAIRD.

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From the SOCIETY.

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From the SOCIETY.

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Transactions of the New York State Agricultural Society. Vol. XXXVI, 1872–1876. Albany: 1878. 8 vo., cloth, pp. 533. From the SOCIETY.

Proceedings of the California Academy of Sciences. Vols. I, III, IV, V, VI, Part I of VII. San Francisco: 1873–1877. From the ACADEMY.

Second Geological Survey of Pennsylvania:
Report of progress in the Fayette and Westmoreland District. Part III. The Ligonier Valley. By J. J. Stevenson. Harrisburg: 1877. 8 vo., cloth, pp. 331KKK.

Do.————————. Elevations above Tide Levels. By Charles Allen. Harrisburg: 1878. 8vo., cloth, pp. 279 N.

Do.————————. Report of Progress in the Beaver River District. By J. C. White. Harrisburg: 1878. 8vo. cloth, pp. 337 Q, plates xxii. From J. B. PEARSE, Secretary of Commissioners of the Survey.

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Additions to the Insect Fauna of the Tertiary Beds at Quesnal (British Columbia). By Samuel H. Scudder. From the Report of Progress, 1876–77, Geological Survey of Canada. 8vo., pamph., pp. 8.

Psyche. Jan.–Feb., 1878. Recent progress of Entomology in America. By S. H. Scudder. 8vo., pamph., pp. 97–116.
From the AUTHOR.

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On the Geology of the Southern Counties of New York and Adjacent Parts of Pennsylvania, especially with reference to the Age and Structure of the Catskill Mountain Range. By James Hall. From Proceed. Amer. Assoc. Adv. Science, Detroit Meeting. Salem Press, March, 1876. 8vo., pamph., pp. 80–84.
From the AUTHOR.

Science Observer. Vol. I, Nos. 8 and 9; vol. II, Nos. 2, 3, 4. Boston: 1878. 8vo. From the BOSTON AMATEUR SCIENTIFIC SOCIETY.

The Geological and Natural History Survey of Minnesota. Sixth Annual Report for the year 1877. Minneapolis: 1878. 8vo., pp. 225. From N. H. WINCHELL, State Geologist.

The General History of Cephalopods, Recent and Fossil. By Miss Agnes Crane. From the Geological Magazine, Decade II, Vol. V, No. 11, November, 1878. From the AUTHOR, per Prof. James Hall.

First, Fourth, Eighth and Ninth Annual Reports of the American Museum of Natural History. New York: 1870–1878. 8vo., in 4 pamphs., pp. 30, 24, 35, 62. From the MUSEUM.

Auditor of Accounts' Annual Report of the Receipts and Expenditures of the City of Boston and the County of Suffolk, for the year 1877–78. Boston: 1878. 8vo, morocco, pp. 406. From ALFRED TURNER, Auditor.

Report of the Botanist [Charles H. Peck]. In advance of the 30th Annual Rep. of the N. Y. St. Mus. Nat. Hist., for the year 1876. Albany: September, 1878. 8vo., pamph., pp. 23–78, 2 plates. From the AUTHOR.

Entomological Contributions, No. IV. By J. A. Lintner. From the 30th Ann. Rep. of the N. Y. St. Mus. Nat. Hist., for the year 1876. Albany: June, 1878. 8vo., pamph., pp. 144.

Report on the Insect and other Animal Forms of Caledonia Creek, New York. By J. A. Lintner. From the 10th Report of the N. Y. State Commissioners of Fisheries. Albany: 1878. 8vo., pamph., pp. 25, 3 plates.

Tenth Annual Report of the New York Fishery Commissioners, for the year 1877. Albany: 1878. 8vo., pamph., pp. 47, 8 plates.
From J. A. LINTNER.

2. BY PURCHASE.

The Geological Record for 1875. By Wm. Whitaker. London: 1877. 8vo., cloth, pp. 443.

The United States: Historical, Descriptive and Statistical. To accompany Case's Map of the United States. Hartford: 1878. 12mo., cloth, pp. 111.

The Naturalists' Directory for 1878. Salem: 1878. 12mo., pp. 184.

The Albany Directory for the year 1878. 800 pp., half cloth.

The Museum of Natural History. By Sir John Richardson and others. New York: 1878. Quarto, Parts 1–24.

Bulletin of the Buffalo Society of Natural Sciences. Vol. III, No. 5.

The American Naturalist. Vol. XI. Boston: 1877. 8vo., pp. 762. Vol. XII. Philadelphia: 1878. 8vo., pp. 850.

The American Journal of Science and Arts. New Haven: 1878. Vols. XV and XVI.

REPORT OF THE BOTANIST.

S. B. WOOLWORTH, LL. D., *Secretary of the Board of Regents of the University:*

SIR — Since the date of my last report, specimens of two hundred and thirteen species of plants have been mounted and placed in the Herbarium, of which one hundred and forty-six were not before represented therein. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Hamilton, Montgomery, Onondaga, Oswego, Rensselaer, Saratoga, Schoharie and Ulster. These represent *one hundred and sixty-six species* new to the Herbarium, one hundred and sixty-two of which are fungi. Of these seventy-five are regarded as new or previously undescribed species. A list of plants collected is marked (2).

Specimens of fourteen New York species, new to the Herbarium, and not among my collections of the past season, have been furnished by correspondents. These, added to those collected, make the whole number of additions *one hundred and eighty*. There are, besides, a considerable number of extra-limital contributions. A list of the contributors and their contributions is marked (3).

New species, with their descriptions, and previously unreported species, are given in a section marked (4).

New stations of rare plants, remarks and observations are given in a section marked (5).

The general fruitfulness of the past season extended to the domain of fungi. Toward the end of summer the frequent showers and warm weather brought out these lowly plants in great abundance. In some localities species of Lycoperdon, commonly known as "Puff-balls," were very plentiful. One correspondent, in speaking of the Engraved puff-ball, *L. excelatum*, and the Cup-shaped puff-ball, *L. cyathiforme*, says: "Of these we have freely eaten for several weeks. They are most excellent. Within the limits of our town more than a ton of them rotted on the ground." The number of species of puff-balls now known to inhabit our State is sixteen. The published descriptions of these are scattered and not always accessible. In some instances the descriptions are very imperfect and unsatisfactory, and technical terms are employed in them, which, without explanation, are scarcely intelligible to persons unaccustomed to the language of scientific description. These facts, together with the importance of these fungi as an article of food, and the desirability of bringing them more into public notice and of enabling people generally to recognize the species, if they wish, have induced me to prepare a monograph of our New York species, in which the descriptions have been rewritten and the more technical terms fully explained. Copious remarks have been added to the descriptions, and the principal distinctive features of the species have been specially mentioned. The monograph on the genus Lycoperdon is marked (6). By its aid, it is thought, that any person, whether botanist or not, will be able to identify our species.

Specimens of puff-balls, when sliced and pressed, as they sometimes are, and mounted on herbarium sheets in the usual manner, lose much of their natural beauty and often have their distinctive specific characters impaired. I have,

therefore, collected and preserved a series of specimens in paper boxes. By this method of preservation the natural colors, shape and other characters are all retained as well as it is possible to preserve them in the dried state. With such specimens for study and comparison, clear ideas of the specific characters can be obtained, and all difficulty in the identification of the species is avoided.

(1.)
PLANTS MOUNTED.

Not new to the Herbarium.

Thalictrum purpurascens *L.*
Spergularia rub. v. campestris *Gr.*
Rhus aromatica *Ait.*
R. typhina *L.*
Medicago lupulina *L.*
Amphicarpea monoica *Nutt.*
Gleditschia triacanthus *L.*
Robinia Pseudacacia *L.*
Potentilla recta *L.*
Crataegus tomentosa *L.*
Ribes prostratum *L'Her.*
Penthorum sedoides *L.*
Sanicula Marilandica *L.*
Pastinica sativa *L.*
Aster cordifolius *L.*
Xanthium spinosum *L.*
Arctostaphylos Uva-ursi *Spreng.*
Vaccinium corymbosum *L.*
Utricularia gibba *L.*
Verbena bracteosa *Mx.*
Lithospermum arvense *L.*
Fraxinus pubescens *Lam.*
Montelia tamariscina *Nutt.*
Polygonum Hydropiper *L.*
Ulmus Americana *L.*
U. fulva *Mx.*
Ostrya Virginica *Willd.*
Alnus viridis *DC.*
A. serrulata *Ait.*
A. incana *Willd.*
Betula populifolia *Ait.*
Arisaema triphyllum *Torr.*
A. Dracontium *L.*
Lemna minor *L.*
Lemna perpusilla *Torr.*
Potamogeton Oakesianus *Robbins.*
Sagittaria het. v. augustifolia.
Habenaria leucophaea *Gr.*
Trillium erythrocarpum *Mx.*
T. erectum *L.*
Lilium Canadense *L.*
Scirpus Eri. v. cyperinus *Gr.*
Eleocharis palustris *R. Br.*
E. melanocarpa *Torr.*
Carex str. v. aperta *Gr.*
Triticum caninum *L.*
Poa trivialis *L.*
Glyceria aquatica *Sm.*
G. Canadensis *Trin.*
Calamagrostis Pickeringii *Gr.*
Poa laxa *Hænke.*
P. alsodes *Gr.*
P. compressa *L.*
Brachyelytrum aristatum *Bc.*
Dicksonia punctilobula *Kze.*
Polypodium vulgare *L.*
Aspidium spinulosum *Sw.*
A. acrostichoides *Sw.*
A. crist. v. Clintonianum.
Cystopteris fragilis *Bernh.*
Onoclea sens. v. obtusilobata.
Scolopendrium vulgare *Sm.*
Asplenium Rutamuraria *L.*
Botrychium Lunaria *Sw.*
B. simplex *Hitch.*
B. lanceolatum *Angst.*
B. Virg. v. gracile.

New to the Herbarium.

Solidago humilis *Pursh.*
Utricularia subulata *L.*
Salix purpurea *L.*
Pinus mitis *Mx.*
Potamogeton lonchitis *Tuckm.*
Muscari racemosum *L.*
Pogonia affinis *Aust.*
Eleocharis tricostata *Torr.*
Hypnum rusciforme *Weis.*
Calicium curtum *T. & B.*

Calicium brunneolum *Ach.*
Arthonia polymorpha *Ach.*
Graphis eulectra *Tuckm.*
Sirosiphon tomentosum *Kutz.*
Chlorostylium cataractarum *Kutz.*
Agaricus cristatellus *Pk.*
A. fumescens *Pk.*
A. pinophilus *Pk.*
A. rubromarginatus *Fr.*
A. radicatellus *Pk.*
A. chrysophyllus *Fr.*
A. abscondens *Pk.*
A. septicus *Fr.*
A. albogriseus *Pk.*
A. micropus *Pk.*
A. undulatellus *Pk.*
A. rhodocalyx *Lasch.*
A. vermifluus *Pk.*
A. limonellus *Pk.*
A. squarrosoides *Pk.*
A. mycenoides *Fr.*
A. paludinellus *Pk.*
A. lentiformis *Pk.*
A. hymenocephalus *Pk.*
A. camptopus *Pk.*
Coprinus rotundosporus *Pk.*
C. macrosporus *Pk.*
Cortinarius Copakensis *Pk.*
C. lapidophilus *Pk.*
Marasmius calopus *Fr.*
Boletus Satanus *Lenz.*
Polyporus pallidus *Schultz.*
P. induratus *Pk.*
P. subiculosus *Pk.*
P. semitinctus *Pk.*
Hydnum sulphurellum *Pk.*
Mucronella calva *A. & S.*
M. aggregata *Fr.*
Solenia villosa *Fr.*
Craterellus dubius *Pk.*
Cyphella sulphurea *Batsch.*
Stereum sanguinolentum *A. & S.*
Clavaria fumigata *Pk.*
C. corynoides *Pk.*
Tremella lutescens *Pers.*
Guepinia Peziza *Tul.*
Hymenula olivacea *Pk.*
Physarum inæqualis *Pk.*
P. ornatum *Pk.*
P. atrorubrum *Pk.*
P. psittacinum *Ditm.*
Badhamia affinis *Rost.*
Didymium eximium *Pk.*
D. angulatum *Pk.*
Chondrioderma difforme *Pers.*
Diachæa subsessilis *Pk.*
Comatricha Friesiana *De By.*
C. pulchella *Bab.*
Lamproderma violaceum *Fr.*
Arcyria pomiformis *Rost.*
Oligonema brevifila *Pk.*
Trichia inconspicua *Rost.*
Lycogala flavofuscum *Ehr.*
Sacidium Pini *Fr.*
Septoria Verbascicola *B. & C.*
S. Waldsteiniæ *P. & C.*
Phyllosticta Loniceræ *Desm.*
Vermicularia trichella *Grev.*
V. albomaculata *Schw.*
Melanconium Americanum *P. & C.*
Sporidesmium sicynum *Thum.*
Phragmidium bulbosum *Schl.*
Uromyces polymorphus *P. & C.*
U. Trifolii *Fckl.*
Ustilago Salvei *B. & Br.*
Mastospora cicadina *Pk.*
Isaria limonipes *Pk.*
Stilbum flavipes *Pk.*
S. rigidum *Pers.*
Sporocybe abietina *Pk.*
Helminthosporium Hydropiperis *Thum.*
H. interseminatum *B. & C.*
Cladosporium Graminum *Lk.*
Botryosporium pulchrum *Berk.*
Polyactis vulgaris *Lk.*
Aspergillus flavus *Lk.*
Peronospora pygmæa *Ung.*
Peronospora simplex *Pk.*
Mucor ramosus *Bull.*
M. caninus *Pers.*
Peziza Acetabulum *L.*
P. succosa *Berk.*
P. vulcanalis *Pk.*
P. gallinacea *Pk.*
P. sulphurea *Pers.*
P. viridicoma *Pk.*
P. Osmundæ *C. & E.*
P. umbrorum *Fckl.*
P. planodiscus *P. & C.*
P. brunneola *Desm.*
Helotium albopunctum *Pk.*
H. phyllophilum *Pk.*
Hæmatomyces orbicularis *Pk.*
Patellaria olivacea *Batsch.*
Dermatea carnea *C. & E.*
D. phyllophila *Pk.*
D. Xanthoxyli *Pk.*
Tympanis acerina *Pk.*

Conangium Cassandræ *Pk.*
C. peisoides *Pk.*
Rhytisma maximum *Fr.*
Phacidium branneolum *Pk.*
Hysterium hyalospermum *Ger.*
Triblidium morbidum *Pk.*
Hypoderma Corni *Fr.*
H. nervisequum *DC.*
Hypocrea viridis *Tode.*
Hypoxylon xanthocreas *B. & C.*
Diatrype asterostoma *B. & C.*
Dothidea Epilobii *Fr.*
Valsa Xanthoxyli *Pk.*
V. translucens *De Not.*
Massaria gigaspora *Desm.*
Lophiostoma prominens *Pk.*
L. sceleste *C. & E.*
Sphæria pulchriseta *Pk.*
S. curvicolla *Pk.*
S. sorghophila *Pk.*
S. fimiseda *C. & D.*
S. phellogena *B. & C.*
S. cladosporicea *Schw.*
S. Marcicensis *Pk.*
S. Crepini *West.*
S. Typhæ *Schw.*
S. Gnomon *Tode.*
Venturia Dickiei *De Not.*

(2.)

PLANTS COLLECTED.

Plantago Rugelii *Decaisne.*
Zygnema insigne *Hassal.*
Chantransia violacea *Ktz.*
Gloeotrichia Pisum *Thuret.*
Agaricus spretus *Pk.*
A. impolitoides *Pk.*
A. alboides *Pk.*
A. patuloides *Pk.*
A. subhirtus *Pk.*
A. dealbatus *Sow.*
A. leptolomus *Pk.*
A. odorus *Bull.*
A. anisarius *Pk.*
A. hygrophoroides *Pk.*
A. lentinoides *Pk.*
A. atratoides *Pk.*
A. cremoraceus *Pk.*
A. luteopallens *Pk.*
A. Epichysium *Pers.*
A. tomentosulus *Pk.*
A. umbrosus *Pers.*
A. dysthales *Pk.*
A. muricatus *Fr.*
A. carbonarius *Fr.*
A. sapineus *Fr.*
A. aquatilis *Fr.*
A. cutheloides *Pk.*
A. nodulosporus *Pk.*
A. infelix *Pk.*
A. trechisporus *Berk.*
A. Artemisiæ *Pass.*
A. modestus *Pk.*
Cortinarius iodes *B. & C.*
C. cæruleoscens *Fr.*
C. amarus *Pk.*
C. crystallinus *Fr.*
C. opimus *Fr.*
C. furfurellus *Pk.*
C. bivelus *Fr.*
C armeniacus *Fr.*
Lactarius pubescens *Fr.*
L. corrugis *Pk.*
Russula nigricans *Fr.*
R. compacta *Frost.*
R. delica *Fr.*
R. olivascens *Fr.*
R. flavida *Frost.*
Hygrophorus lividoälbus *Fr.*
Marasmius archyropus *Pers.*
Boletus punctipes *Pk.*
B. sensibilis *Pk.*
B. Roxanæ *Frost.*
B. rubinellus *Pk.*
Polyporus circinatus *Fr.*
P. parvulus *Klotzsch.*
P. simillimus *Pk.*
P. Morgani *Frost.*
P. cuticularis *Bull.*
P. chrysoloma *Fr.*
P. molluscus *Fr.*
Trametes Trogii *Berk.*
Hydnum alutaceum *Fr.*
Craterellus Cantharellus *Schw.*
C. clavatus *Fr.*

Corticium subrepandum *B. & Ck.*
Thelephora radiata *Holmsk.*
Clavaria formosa *Pers.*
C. fastigiata *L.*
C. corrugata *Karst.*
C. flaccida *Fr.*
Pterula divaricata *Pk.*
Tremella subcarnosa *Pk.*
Dacrymyces conglobatus *Pk.*
Phallus Ravenelii *B. & C.*
Geaster Capensis *Thum.*
Melanogaster variegatus *Tul.*
Rhizopogon rubescens *Tul.*
Enerthenema papillata *Pers.*
Cribraria vulgaris *Schrad.*
Depazea juglandina *Fr.*
Vermicularia compacta *C. & E.*
Septoria Populi *Desm.*
S. Canadensis *Pk.*
Sphæropsis cornina *Pk.*
S. typhina *Pk.*
S. Peckiana *Thum.*
Synchytrium Anemones *DC.*
Protomyces conglomeratus *Pk.*
Puccinia Scirpi *Lk.*
Torula anomala *Pk.*
Acrospermum album *Pk.*
Isaria fulvipes *Pk.*
Tuberculariа hirtissima *Pk.*
T. floccosa *Lk.*
Periconia albiceps *Pk.*
Septosporium velutinum *C. & E.*
Helminthosporium obovatum *Berk.*
Cladosporium compactum *B. & C.*
Heterosporium Ornithogali *Kl.*
Fusicladium dendriticum *Wallr.*
Polyactis cinerea *Berk.*
Oidium destruens *Pk.*
Ramularia effusa *Pk.*
R. albomaculata *Pk.*
R. lineola *Pk.*
R. Fragariæ *Pk.*
R. Norvegicæ *Pk.*
R. Plantaginis *Pk.*
R. variabilis *Fckl.*
R. angustata *Pk.*
Cercospora Rosæcola *Pass.*
C. Apii *Fres.*
Glomerularia Corni *Pk.*
Peronospora Ficariæ *De By.*
P. Corydalis *De By.*
Peronospora gangliformis *Berk.*
Sporotrichum larvatum *Pk.*
S. sulphureum *Grev.*
S. alutaceum *Schw.*
Spondylocladium tenellum *Pk.*
Penicillium bicolor *Fr.*
Acremonium flexuosum *Pk.*
Sepedonium cervinum *Dittm.*
S. brunneum *Pk.*
Morchella angusticeps *Pk.*
Gyromitra curtipes *Fr.*
Geoglossum irregulare *Pk.*
Peziza euplecta *Ck.*
P. melastoma *Sow.*
P. apiculata *Ck.*
P. tetraënalis *Pk.*
P. humoscides *Pk.*
P. longipila *Pk.*
P. aurata *Fckl.*
P. melaleuca *Fr.*
P. urticina *Pk.*
P. Typhæ *Pk.*
P. enterochroma *Pk.*
Helotium palustre *Pk.*
H. fraternum *Pk.*
H. lutescens *Fr.*
H. vibrissecoides *Pk.*
Dermatea minuta *Pk.*
Patellaria pusilla *Pk.*
Bulgaria bicolor *Pk.*
B. deligata *Pk.*
Hypomyces luteovirens *Fr.*
Exoascus Pruni *Fckl.*
Taphrina aurea *Fr.*
Hypoxylon udum *Fr.*
Dothidea reticulata *Fr.*
Diatrype verrucoides *Pk.*
Valsa pulviniceps *Pk.*
V. Sorbi *Fr.*
Lophiostoma bicuspidata *Ck.*
Sphæria squamulata *Schw.*
S. albidostoma *Pk.*
S. subiculata *Schw.*
S. intricata *Pk.*
S. scopula *C. & P.*
S. subdenudata *Pk.*
S. livida *Fr.*
S. humulina *Pk.*
S. clavarilna *Pk.*
Sphærella Peckii *Speg.*
S. septorioides *Pk.*

(8.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Rev. H. WIBBE, Oswego, N. Y.

Listera australis *Lindl.*
Botrychium simplex *Hitch.*

Prof. P. A. PUISSANT, Troy, N. Y.

Solidago Virgaurea *L.*

ADDISON BROWN, New York City, N. Y.

Lepidium Draba *L.*
L. ruderale *L.*
Thlaspi arvense *L.*
Alliaria officinalis *DC.*
Asperugo procumbens *L.*
Matricaria Chamomilla *L.*
Aster memoralis *Ait.*

E. S. MILLER, Wading River, N. Y.

Glaucium luteum *Scop.*
Hypericum adpressum *Barton.*

N. L. BRITTON, New Dorp, N. Y.

Pinus mitis *Mx.*
Pinus inops *Ait.*

H. A. WARNE, Oneida, N. Y.

Cynophallus caninus *Fr.*

L. M. UNDERWOOD, Syracuse, N. Y.

Zygadenus glaucus *Nutt.*

Hon. G. W. CLINTON, Buffalo, N. Y.

Aster Novæ-Angliæ *L.*
A. ericoides *L.*
Gentiana puberula *Mx.*
Hydnum cinnabarinum *Schw.*
H. fuscoätrum *Fr.*
Clathrus cancellatus *L.*
Sphæropsis pulchrispora *P. & C.*
Tuberculariæ subdiaphana *Schw.*
Verticillium lateritium *Ehr.*
Sporotrichum virescens *Lk.*
Peziza Sphærella *P. & C.*
Helotium Sarmentorum *Fr.*
Sphæria pulviscula *Curr.*
S. infectoria *Fckl.*
Grandinia membranacea *P. & C.*

W. DOOLITTLE, Medusa, N. Y.

Lycoperdon giganteum *Batsch.*

S. H. WRIGHT, M. D., Penn Yan, N. Y.

Potamogeton crispus *L.*
Desmodium nudiflorum *DC.*
Aster puniceus *L.*
Ulmus racemosa *Thomas.*
Polygonum amphibium *L.*
P. Hartwrightii *Gr.*

A. P. MORGAN, Dayton, Ohio.

Agaricus Morgani *Pk.*
Polyporus Morgani *Frost.*

Prof. A. M. JOHNSON, Minneapolis, Minn.

Polyporus tomentoso-quercinus *Johns.*

H. W. RAVENAL, Aiken, S. C.

Lentinus Lecomtei *Fr.*
Phallus rubicundus *Bosc.*
Lycoperdon leprosum *B. & Rav.*

C. F. AUSTIN, Closter, N. J.

Micromitrium Austinii *Sullic.*
Agaricus chlorinosmus *Pk.*

M. S. BEBB, Fountaindale, Ill.

Salix petiolaris *Smith.*

W. C. STEVENSON, JR., Philadelphia, Pa.

Trametes suaveolens *Fr.*
Polyporus cuticularis *Fr.*

W. F. BUNDY, Sauk City, Wis.

Podaxon Warnei *Pk.*

Prof. W. G. FARLOW, Cambridge, Mass.

Synchytrium Myo. v. Potentillæ.
S. papillatum *Far.*
Peronospora Ficariæ *Tul.*
P. obducens *Schroet.*
P. Potentillæ *De By.*
P. nivea *Ung.*
Ramularia macrospora *Fres.*
Cenangium pythium *B. & C.*
Podisoma Ellisii *Berk.*
Uromyces Junci *Schw.*
U. Dactylidis *Otth.*
Puccinia Epil. v. Proserpinaceæ.
Taphrina aurea *Fr.*
T. alnitorqua *Tul.*
Ascomyces deformans *Berk.*
Dothidea vorax *B. & C.*

E. A. RAU, Bethlehem, Pa.

Puccinia Grindeliæ *Pk.*
P. Kuhniæ *Schw.*
P. cladophila *Pk.*
Æcidium gracilens *Pk.*
Uromyces sanguineus *Pk.*
U. Brandegei *Pk.*
U. simulans *Pk.*
U. plumbarius *Pk.*

J. B. ELLIS, Newfield, N. J.

Trametes suaveolens *Fr.*
Polyporus volvatus *Pk.*
Uromyces Junci *Schw.*
Helicosporium olivaceum *Pk.*
H. ellipticum *Pk.*
H. lilacinum *Ellis.*
Diplodia ilicicola *Desm.*
Vermicularia compacta *C. & E.*
Hymenula æruginosa *C. & E.*
Corticium subrepandum *B. & Cke.*
Septosporium prælongum *Sacc.*
Cercospora grisea *C. & E.*
Polyactis streptothrix *C. & E.*
Chætostroma olivaceum *C. & E.*
Peziza fuscidula *C. & E.*
P. regalis *C. & E.*
P. pulverulenta *Lib.*
P. atrocinerea *Ck.*
P. Pinastri *C. & P.*
Meliola amphitricha *Fr.*
Lophiostoma cyclopeum *Ellis.*
Sphæria barbirostris *Duf.*
S. Eriophora *Ck.*
S. soluta *C. & E.*
S. distributa *C. & E.*
S. Desmodii *Pk.*
S. Ogilviensis *B. & Br.*

(4.)

PLANTS NOT BEFORE REPORTED.

GLAUCIUM LUTEUM *Scop.*

Shore of Fort Pond Bay, Montauk Point. *E. S. Miller.*

ALLIARIA OFFICINALIS *DC.*

Hunter's Point, Westchester County. *Addison Brown.*

HYPERICUM ADPRESSUM *Bart.*

Between Sag Harbor and East Hampton. *Miller.*

ASTER NEMORALIS *Ait.*

Long island and Hitchings Pond, Adirondack Mountains. *Brown.*

PLANTAGO RUGELII *Decaisne.*

Not uncommon about Albany, but often confused with *Plantago major.*

GENTIANA PUBERULA *Mx.*

Buffalo *G. W. Clinton.*

POTAMOGETON CRISPUS *L.*

Keuka Lake, Yates County. *S. H. Wright.*

CHANTRANSIA VIOLACEA *Kz.*

Wet rocks in rapid streams. Sprakers. June.

This alga forms soft mats or cushions of a dark-red or purplish color on rocks kept wet by rapidly flowing water.

ZYGNEMA INSIGNE *Hassel.*

Standing water in ditches. North Greenbush. June.

GLEOTRICHIA PISUM *Thuret.*

Floating and submerged leaves of water plants. Brewerton. Sept.

MICROMITRIUM AUSTINII *Sulliv.*

Ground. Rockland County. *C. F. Austin.*

AGARICUS (AMANITA) SPRETUS *n. sp.*

Pileus subovate, then convex or expanded, smooth or adorned with a few fragments of the volva, substriate on the margin, whitish or pale-brown; lamellæ close, reaching the stem, white; stem equal, smooth, annulate, stuffed or hollow, whitish, finely striate at the top from the decurrent lines of the lamellæ, not bulbous at the base, but the volva rather large, loose, subochreate; spores elliptical, generally with a single large nucleus, .0004′–.0005′ long, .00025′–.0003′ broad.

Plant 4′–6′ high, pileus 3′–5′ broad, stem 4″–6″ thick.

Ground in open places. Sandlake and Gansevoort. Aug.

This species belongs to the Phalloidean section, and is related to *A. porphyrius* and *A. recutitus*. The margin of the pileus is generally clearly, though sometimes obsoletely, striate. The absence of a bulbous base separates it from *A. mappa*.

AGARICUS (TRICHOLOMA) IMPOLITOIDES *n. sp.*

Pileus convex, then expanded, obtuse, dry, fibrillose-tomentose, becoming squamose on the disk, sometimes distantly striate on the margin, whitish, the disk usually brownish; lamellæ close, emarginate, whitish; stem equal, solid, slightly fibrillose, white; spores elliptical, .00025′ long, .0002′ broad; flesh white, taste farinaceous.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3″–5″ thick.

Ground in woods. Gansevoort. Aug.

This plant is closely related to *A. impolitus*, but I do not find the stem squamose nor the taste salty or peppery as in that species. It sometimes grows in circles. The scaly disk at first sight is suggestive of species of Lepiota.

AGARICUS (TRICHOLOMA) ALBOIDES *n. sp.*

Pileus compact, firm, convex, glabrous, white, the disk tinged with yellow or brown; lamellæ crowded, rounded behind, subfree, white; stem nearly equal, solid, firm, squamulose at the apex, white; spores subelliptical, .0002′–.00025′ long, .00016′ broad; taste at first bitter, then very acrid, odor strong, earthy or subfetid.

Plant 3′–4′ high, pileus 2′–3′ broad, stem 3′–6′ thick.

Ground in woods. Brewerton. Sept.

This species is very near to *A. albus*, but its compact pileus, peppery taste and strong odor seem to require its separation. The stem sometimes penetrates the earth quite deeply.

AGARICUS (CLITOCYBE) SUBHIRTUS *n. sp.*

Pileus convex or expanded, sometimes slightly depressed, at first tomentose-hairy and pale-yellow or buff colored, then nearly glabrous and whitish, the margin incurved; lamellæ close, adnate or decurrent, whitish or pale yellow; stem subequal, stuffed or hollow, whitish; spores subglobose, or broadly elliptical, .00025′ long.

Plant 1′–3′ high, pileus 1′–3′ broad, stem 2″–4″ thick.

Ground in woods. Brewerton. Sept.

The species is apparently related to *A. subalutaceus*. The pileus becomes smoother and paler with age. The spores sometimes present an irregular form.

AGARICUS (CLITOCYBE) PATULOIDES *n. sp.*

Pileus compact, convex or expanded, glabrous, the cuticle sometimes breaking up into small appressed scales, whitish or pale-yellow, the margin incurved; lamellæ thin, crowded, decurrent and reticulately connected in thin lines; stem equal, solid, firm, glabrous, whitish; spores subglobose or broadly elliptical, .00025–.0003′ long; flesh pure white.

Plant gregarious or circinating, 2–4′ high, pileus 1′–4′ broad, stem 4″–10″ thick.

In groves and open woods. Brewerton. Sept.

The reticulations of the narrowly decurrent lamellæ at the top of the stem indicate a relationship with *A. patulus*, but it appears to be a Clitocybe, not a Tricholoma, and therefore must be distinct.

AGARICUS DEALBATUS *Sow.*

Grassy pastures. Brewerton. Sept.

AGARICUS ODORUS *Bull.*

Ground in woods. Gansevoort. Aug.

In our specimens the lamellæ are close and white, and the pileus loses its green color with age.

AGARICUS (CLITOCYBE) ANISARIUS *n. sp.*

Pileus convex, then expanded, greenish-gray with the margin incurved, then grayish or whitish, adorned with minute innate fibrils, slightly pruinose and substriate on the margin; lamellæ adnate or decurrent, narrow, crowded, white; stem subequal, firm, hollow, whitish; spores subelliptical, .00025′ long; odor weak but pleasant, anise-like.

Plant 2′–4′ high, pileus 1.5′–3′ broad, stem 2′′–3′′ thick.

Ground in woods. Gansevoort. Aug.

This is closely related to *A. connexus*, from which it is easily separated by the hollow stem.

AGARICUS (CLITOCYBE) LEPTOLOMUS *n. sp.*

Pileus thin, plane or infundibuliform, umbilicate, hygrophanous, smooth, creamy-white when moist, white when dry, the margin very thin; lamellæ thin, narrow, crowded, some of them forked, decurrent, white; stem equal, smooth, generally curved or flexuous, stuffed, colored like the pileus, white-villous at the base; spores very minute, subelliptical, .00012′ long.

Plant gregarious or subcæspitose 2′–3′ high, pileus about 2′ broad, stem 1′′–2′′ thick.

Decaying prostrate trunks in woods. Indian Lake. Aug.

The width of the lamellæ is about equal to the thickness of the flesh of the pileus. They taper gradually toward each end, where they are very narrow. The species may be distinguished from *A. truncicola* by its hygrophanous umbilicate pileus. The stem is sometimes eccentric.

AGARICUS (COLLYBIA) CREMORACEUS *n. sp.*

Pileus thin, submembranaceous, convex or campanulate, obtuse, dry, slightly silky, dingy cream color, the margin sometimes wavy; lamellæ broad, ascending, ventricose, with a decurrent tooth, whitish; stem slender, slightly silky, stuffed or hollow, pallid or subconcolorous; spores broadly elliptical or subglobose, .00025′ long, .0002′ broad.

Plant 1.5′–2′ high, pileus 6′′–12′′ broad, stem about 1′′ thick.

Ground in woods. Gansevoort. Aug.

AGARICUS (COLLYBIA) HYGROPHOROIDES *n. sp.* (Plate II, figs. 21–24.)

Pileus subconical, then convex or expanded, smooth, hygrophanous, reddish or yellowish-red when moist, paler when dry; lamellæ sub-distant, rounded behind or deeply emarginate, eroded on the edge, whitish; stem nearly equal, striate, stuffed or hollow, whitish; spores subelliptical, .0002′–00025′ long, .00016′ broad.

Plant subcæspitose, 2′–3′ high, pileus 1′–1.5′ broad, stem 2″–3″ thick.

Decaying half-buried wood. Knowersville. May.

At first sight the young pileus is suggestive of the pileus of *Hygrophorus conicus*, both in shape and color. When dry the color is pallid or subochraceous.

AGARICUS (COLLYBIA) LENTINOIDES *n. sp.*

Pileus thin, convex, obtuse, smooth, hygrophanous, reddish-brown or chestnut color when moist, reddish-alutaceous when dry; lamellæ narrow, close, adnexed, serrate on the edge, white; stem equal, substriate, slightly pruinose at the apex, white.

Plant about 2′ high, pileus 6″–10″ broad, stem 1″ thick.

Ground in wooded swamps. Root, Montgomery County. June.

The serrated lamellæ and white substriated stem will serve to distinguish this species from *A. dryophilus*.

AGARICUS (COLLYBIA) ATRATOIDES *n. sp.*

Pileus thin, convex, subumbilicate, glabrous, hygrophanous, blackish-brown when moist, grayish-brown and shining when dry; lamellæ rather broad, adnate, subdistant, grayish-white, often venulose-connected and transversely marked above with slender veins; stem equal, hollow, smooth, grayish-brown, with a whitish tomentum at the base; spores nearly globose, about .0002′ across.

Plant gregarious or subcæspitose, about 1′ high, pileus 6″–10″ broad, stem .5″–1″ thick.

Decaying mossy sticks and logs in woods. Gansevoort. Aug.

The species belongs to the section Tephrophanæ, and is apparently related to *A. atratus*.

AGARICUS (MYCENA) LUTEOPALLENS *n. sp.*

Pileus thin, convex, smooth, striatulate on the margin when moist, bright yellow, becoming paler when dry; lamellæ moderately close, subarcuate, yellow; stem equal or slightly tapering upward, smooth, hollow, yellow, with yellow hairs and fibrils at the base.

Plant single or cæspitose, 2′ high, pileus 3″–6″ broad, stem about 1″ thick.

Among fallen leaves in woods. Adirondack Mountains. Aug.

This species may be distinguished from *Hygrophorus parvulus* by its subcæspitose habit, and the yellow hairs at the base of the stem.

AGARICUS EPICHYSIUM *Pers.*

Decaying prostrate trunks of trees. Indian Lake. Aug.

AGARICUS (PLUTEUS) TOMENTOSULUS *n. sp.*

Pileus thin, convex or expanded, subumbonate, dry, minutely squamulose-tomentose, white, sometimes pinkish on the margin; lamellæ rather broad, rounded behind, free, crowded, white, then flesh-colored; stem equal, solid, striate, slightly pubescent or subtomentose, white; spores subglobose, .0003′ in diameter, generally containing a single large nucleus.

Plant 2′–5′ high, pileus 1′–8′ broad, stem 2″–4″ thick.

Decaying wood. Catskill Mountains and Gansevoort. July and August.

AGARICUS UMBROSUS *Pers.*

Decaying wood. Indian Lake. Aug.

AGARICUS (ENTOLOMA) DYSTHALES *n. sp.*

Pileus submembranaceous, subconical, then convex or expanded, obtuse, striate, furfuraceous or squamulose, lurid-brown, becoming paler with age; lamellæ broad, subdistant, ventricose, brown or grayish-brown, then flesh-colored; stem equal, hollow, slender, tomentose-squamulose, brownish; spores irregularly oblong-elliptical, .0006′–.00065′ long, about half as broad, usually containing a single large nucleus.

Plant about 2′ high, pileus 3′–6″ broad, stem about 1″ thick.

Damp ground in woods. Catskill Mountains. July.

The species belongs to the section Leptonidei. It has a peculiar starved deformed appearance, whence the specific name. To the naked eye the pileus appears to be clothed with minute branny scales, but under a lens these are seen to be jointed matted filaments which form a kind of thin squamulose tomentum. In some specimens it is more dense than in others, both on the pileus and stem. The general outline of the spores is narrowly elliptical, but they are somewhat pointed at the base and they also have the angular projections, which are generally present on the spores of species of Entoloma. The adornment of the pileus and stem indicates an affinity with *A. fubatus*, but our plant is much smaller than that and is very different in its habit.

AGARICUS MURICATUS *Fr.*

Decaying wood of deciduous trees. Carlisle and Indian Lake. June and August.

AGARICUS TRECHISPORUS *Berk.*

Ground in woods. Brewerton. Sept.

Only a single specimen was found. The pileus is nearly white and the plant odorless, but in other respects it agrees well with the description of the species to which we have referred it.

AGARICUS (INOCYBE) NODULOSPORUS *n. sp.*

Pileus thin, hemispherical or convex, obtuse, floccose-squamose, dark cervine-brown or umber color, the scales of the disk usually erect; lamellæ rounded behind, adnexed, ventricose, pallid, then ferruginous-cinnamon, white and minutely toothed on the margin; stem equal, solid, tomentose-squamulose, colored like the pileus; spores rough, .0003′–.00035′ long.

Plant about 1′ high, pileus 4″–8″ broad, stem scarcely 1″ thick.

Decaying wood in woods. Gansevoort. Aug.

This species agrees very closely with the description of *A. lanuginosus*, to which I should have referred it but for the rough spores. It is smaller than *A. stellatosporus*, of a paler color and a more soft and woolly appearance. Both belong to the section Squarrosi.

AGARICUS (INOCYBE) RUTHELOIDES *n. sp.*

Pileus thin, conic or campanulate, then expanded, distinctly umbonate, silky-fibrillose, subrimose, varying in color from grayish-cervine to chestnut-brown, the disk sometimes squamulose; lamellæ moderately close, rather broad, ventricose, narrowed or rounded behind, adnexed, whitish, then ferruginous-brown, white and denticulate on the edge; stem equal, subflexuous, solid, whitish-fibrillose, pallid; spores even, uninucleate, gibbous or unequally elliptical, .00035′–.0004′ long; flesh of the pileus white.

Plant 1′–2′ high, pileus 6′–12′ broad, stem 1″–2″ thick.

Ground in woods. Brewerton. Sept.

The species seems to be closely related to *A. eutheles*, from which it differs in the character of the lamellæ, which are rather abruptly and strongly narrowed behind, in the absence of a farinaceous odor and in the character of the spores. The stem is paler then the pileus, sometimes being nearly white. The species belongs to the section Rimosi.

AGARICUS (INOCYBE) INFELIX *n. sp.*

Pileus campanulate, convex or expanded, subumbonate, fibrillose-squamulose, grayish-brown or umber; lamellæ close, emarginate, ventricose, rather broad, whitish, then ferruginous-brown; stem equal, solid, pallid or whitish, sometimes darker toward the base, silky fibrillose, white and pruinose at the top; spores oblong, .0004′–.0005′ long, about .0002′ broad; flesh of the pileus white, odor none.

Plant 1′–2′ high, pileus 6′–12′ broad, stem 1″–2″ thick.

Sterile mossy ground in open places. Indian Lake. Aug.

The species belongs to the section Laceri. In wet weather the pileus becomes more lacerated than in dry. It generally becomes paler with age. A small form occurs in which the pileus is scarcely umbonate and 4″–6″ broad, with the stem about half an inch high. The oblong spores afford a ready character by which to separate this species from the preceding.

AGARICUS SAPINEUS *Fr.*

Decaying prostrate trunks. Brewerton. Sept.

AGARICUS CARBONARIUS *Fr.*

Burnt ground. Sandlake. May.

AGARICUS AQUATILIS *Fr.*

In wet moss along rivulets. Catskill Mountains. July.

AGARICUS FLAVIDUS *Schæff.*

Decaying wood. Indian Lake. Aug.

AGARICUS ARTEMISIÆ *Pass.*

Damp ground in woods. Brewerton. Sept.

AGARICUS (HYPHOLOMA) MODESTUS *n. sp.*

Pileus thin, convex or subconical, then expanded, rarely slightly umbonate, hygrophanous, reddish-brown or pale chestnut-colored when moist, dingy or

ochraceous-brown when dry, smooth, the margin whitened when young by the flocculent evanescent veil, sometimes striate; lamellæ plane, broad, adnate or slightly emarginate, usually with a decurrent tooth, grayish or clouded, becoming purplish-brown, the edge white; stem equal, rather firm, hollow, fibrillose, brownish; spores purple-brown, broadly ovate, compressed, .00025′–.0003′ long.

Plant gregarious, about 1′ high, pileus 4″–10″ broad, stem about 1″ thick.

Bark and branches lying on the ground in woods. Adirondack Mountains. Aug.

The species belongs to the section Appendiculati. In drying the disk changes its color first.

CORTINARIUS CERULESCENS *Fr.*

Ground in woods and groves. Brewerton. Sept.

Our specimens were violet rather than blue, but they were not very young and may have lost some of their original color.

CORTINARIUS CRYSTALLINUS *Fr.*

Mossy ground in low woods. Sandlake. Oct.

The specimens are much smaller than the dimensions given in the description, and the habitat is different, but they agree very well with the figures of the species.

CORTINARIUS (PHLEGMACIUM) AMARUS *n. sp.*

Pileus convex or expanded, often irregular, smooth, glutinous in wet weather, yellow, the disk sometimes tinged with red, pale-yellow when dry, the margin whitish; lamellæ close, rounded behind, whitish, then ochraceous-cinnamon; stem soft, tapering upward, solid, whitish, at first clothed with white silky fibrils; flesh white, taste very bitter.

Plant gregarious or subcæspitose, 1′–2′ high, pileus about 1′ broad, stem 2′–4″ thick.

Ground under spruce and balsam trees. Adirondack Mountains. Aug.

In wet weather the stem is sometimes viscid, apparently from the gluten of the pileus running down upon it.

CORTINARIUS IODES *B. & C.*

Ground in woods. Sandlake. Aug.

This is a small but beautiful species, the pileus, lamellæ and stem being of a bright-violet or purplish-violet hue. The spores are subelliptical, generally uninucleate, .0004′ long, .00025′ broad.

CORTINARIUS OPIMUS *Fr.*

Ground in woods. Catskill Mountains. July.

CORTINARIUS BIVELUS *Fr.*

In woods about the margin of swamps Center. Sept.

The margin is often whitish with superficial fibrils which sometimes form a continuous zone and sometimes are collected in patches

CORTINARIUS (TELAMONIA) FURFURELLUS *n. sp.*

Pileus thin, convex, furfuraceous with minute squamules, hygrophanous, watery-tawny when moist, pale ochraceous when dry: lamellæ broad, thick, distant, adnate or slightly emarginate, tawny-yellow, then cinnamon; stem equal, peronate, colored like the pileus, with a slight annulus near the top; spores subelliptical, minutely rough, .0003–.0004′ long, .00025′ broad.

Plant 1′–2 high, pileus 1′–2′ broad, stem 2′′–4′′ thick.

Moist ground in open places. Gansevoort. Aug.

CORTINARIUS ARMENIACUS *Fr.*

Ground in woods. Gansevoort. Aug.

HYGROPHORUS LIVIDOALBUS *Fr.*

Ground in woods. Brewerton. Sept.

LACTARIUS PUBESCENS *Fr.*

Ground in open woods. Sandlake and Gansevoort. Aug.

Our specimens have the margin of the pileus obsoletely pubescent, and generally narrowly zonate. The stem is white, and either equal or tapering downward; it is sometimes spotted, but I have not seen it with incarnate tints. In other respects they agree so well with the description of *L. pubescens*, that I have concluded to refer them to that species.

LACTARIUS CORRUGIS *n. sp.*

Pileus fleshy, compact, firm, convex, then expanded or centrally depressed, merulioid or corrugated with gyrose-reticulate wrinkles, dark reddish-brown or chestnut-colored, becoming paler with age, suffused as if with a slight pruinosity; lamellæ close, dark creamy-yellow or sub-cinnamon, becoming paler, often distilling drops of moisture, sordid or brownish where bruised; stem equal, solid, firm, paler than the pileus, sub-pruinose; spores large, subglobose, .00045–.0005′ in diameter, intermixed with small acicular points or spicules, .0016–.002′ long; flesh whitish or cream-colored, milk copious, white, mild.

Plant 4′–6′ high, pileus 3′–5′ broad, stem 6′′–12′′ thick.

Ground in woods. Sandlake, Gansevoort and Brewerton. August and September.

This remarkable species is related to *L. volemus*. It is, however, of a darker color, and the surface of the pileus is very uneven from the presence of rugæ or folds, which present an appearance much like that of the hymenium of some species of Merulius. The spicules of the lamellæ too are a peculiar feature. They are so numerous that under a lens they give a pubescent appearance to the edge of the lamellæ.

RUSSULA NIGRICANS *Bull.*

Ground in woods. Gansevoort and Brewerton. Aug. and Sept.

Our specimens agree with the description in every respect except that the lamellæ are not distant.

RUSSULA DELICA *Fr.*

Ground in woods. Center and Brewerton.

This very closely resembles *Lactarius vellereus*, from which it may be distinguished by its mild taste, and the absence of a milky juice. From the juiceless variety of *L. vellereus* its mild taste alone furnishes a separating character.

RUSSULA COMPACTA *Frost MS.*

Pileus fleshy, compact, convex, sometimes centrally depressed, dry, whitish, sometimes tinged or spotted with reddish or yellowish hues, becoming dingy or reddish alutaceous when old or dry, the margin thin but even; lamellæ broad, sub-distant, unequal, a few of them forked, nearly free, white, becoming brown when bruised or dried; stem equal, firm, rather short, solid, white, changing color like the pileus; spores subglobose, nearly smooth, .00085′ in diameter; flesh whitish or subalutaceous, taste mild, odor when drying very disagreeable

Plant 2′–4′ high, pileus 3′–5′ broad, stem 8″–12″ thick.

Ground in open woods. Sandlake and Brewerton. Aug. and Sept.

Our specimens do not fully agree with Mr. Frost's manuscript description, but they approach so near an agreement that we have not thought best to separate them. The pileus is sometimes split on the margin. The change of color in the pileus and stem is nearly the same, but the lamellæ become darker than either. The disagreeable odor is retained a long time by the dried specimens. The species belongs to the section Compactæ.

RUSSULA OLIVASCENS *Fr.*

Ground in woods. Gansevoort. Aug.

RUSSULA FLAVIDA *Frost MS.*

Pileus fleshy, convex, slightly depressed in the center, not polished, yellow, the margin at first even, then slightly striate-tuberculate; lamellæ nearly entire, venose-connected, white, then cinereous or yellowish; stem firm, solid, yellow, sometimes white at the top; spores yellow, subglobose, .00025′–.0003′ in diameter; flesh white, taste mild.

Plant 2′–3′ high, pileus 2′–3′ broad, stem 4″–6″ thick.

Ground in woods. Sandlake. Aug.

MARASMIUS ARCHYROPUS *Pers.*

Ground in woods and swamps. Albany, Adirondack Mountains, etc. This is one of our most common species. It was formerly confused with *M. celutipes*. The latter is generally smaller and has the pileus darker colored and usually with a slight umbilicus. The stem is more slender and its velvety covering inclining to a tawny or subochraceous hue. Both species occur in our State.

BOLETUS PUNCTIPES *n. sp.*

Pileus convex or expanded, glutinous in wet weather, yellow, the thin margin at first minutely grayish-pulverulent, at length recurved; tubes short, nearly plane, adnate, small, subrotund, at first brownish, then sordid-yellow;

stem firm, thickened at the base, glandular-dotted, exannulate, solid, rhubarb-yellow; spores .00035′–.0004′ long, .00016′ broad, flesh yellowish, inclining to grayish in the stem.

Plant 2′–4′ high, pileus 2′–3′ broad, stem 3′′–5′′ thick.

Ground in woods. Gansevoort. Aug.

This species belongs to the section Viscipelles. It is related to such species as *B. albus*, *B. granulatus*, etc. Its rhubarb-colored stem thickened at the base and the brownish color of the young hymenium are its distinguishing features.

BOLETUS RUBINELLUS *n. sp.* (Plate II, figs. 18–20.)

Pileus at first broadly conical or subconvex, then expanded, subtomentose, red, becoming paler with age; tubes convex, adnate or somewhat depressed around the stem, rather large, subrotund, pinkish-red, then sordid-yellow; stem equal, smooth, yellow with reddish stains; spores oblong, .0005′–.0006′ long, .00016′ broad; flesh of both pileus and stem bright-yellow.

Plant about 2′ high, pileus 1′–2′ broad, stem 1′′–2′′ thick.

Ground in woods. Gansevoort. Aug.

The species belongs to the section Subtomentosi, and is apparently related to *B. rubinus*.

BOLETUS SENSIBILIS *n. sp.*

Pileus at first firm, convex, pruinose-tomentose, brick-red, then expanded, paler or ochraceous-red, glabrous, soft; tubes at first plane or concave, bright-yellow, then tinged with green, finally sordid-yellow, small, subrotund; stem firm, smooth, lemon-yellow, narrowed at the top when young, and sometimes slightly cribrose from the decurrent walls of the tubes, often stained with red or rhubarb-color; spores greenish-brown, .0005′ long, .00016′ broad; flesh of the pileus pale-yellow, of the stem brighter colored and marbled, both flesh and tubes quickly changing to blue when wounded.

Plant scattered or cæspitose, 4′–6′ high, pileus 3′–8′ broad, stem 6′′–12′′ thick.

Ground in woods. Gansevoort. Aug.

The species belongs to the section Subpruinosi. The specific name is suggested by the ease and rapidity with which the change of color is produced. Merely handling the specimens produces the blue color where they are pressed by the fingers. The species seems near *B. miniato-olivaceus*, but the difference in the color of the pileus and in the character of the stem and its susceptibility to change of color seem to require its separation.

BOLETUS ROXANÆ *Frost.*

Ground in woods. Sandlake. Aug.

The margin of the pileus in our specimens is conspicuously involute when young. The stem is sometimes yellow at the top. The species belongs to the section Edules.

POLYPORUS PARVULUS *Klotsch* (*P. connatus* Schw.).

Burnt ground. Brewerton. Sept.

Either a closely related species or else a variety of this one sometimes occurs on shaded banks by roadsides. It has the large pores and spores of

P. parvulus, but the ferruginous or tawny color of *P. perennis*. I have seen only poor deformed specimens, and for the present prefer to consider it a variety of the above under the name *P. parvulus* var. *deformatus*.

POLYPORUS SIMILLIMUS *n. sp.*

Pileus thin, coriaceous, convex or expanded, umbilicate, zonate, cinereous-brown or livid-chestnut color, slightly silky-tomentose and radiately-fibrillose; pores minute, angular, not at all or but slightly decurrent, cinnamon-color, the dissepiments thin, acute, toothed or lacerated; stem slender, equal, sometimes slightly bulbous at the base, slightly velvety-tomentose, brownish; spores elliptical, usually uninucleate, .00025′–.0003′ long, .0002′ broad.

Plant about 1′ high, pileus 6′′–12′′ broad.

Burnt ground. Brewerton. Sept.

This plant occurred in company with the preceding species, and was at first taken to be a mere variety of it. Looking at the upper surface of the pileus alone it is not possible to separate one species from the other. But there is such a marked difference in the size of the pores and in the length of the spores that it scarcely seems right to lump the two together as one species. The spores are scarcely as large as in *P. splendens* and *P. perennis*, and they sometimes exhibit a slight incarnate tinge. In all the four species mentioned the pilei are sometimes confluent and sometimes have the margin fimbriate. *P. pictus*, another closely related species, but one which has not yet occurred with us, may be distinguished from the others by its glabrous stem.

The prominent characters of our four species may be expressed as follows:

Pileus plane or convex, umbilicate, opake.	
Pores large, rather long, scarcely decurrent	P. parvulus *Klotsch.*
Pores small, rather long, scarcely decurrent	P. similimus *Pk.*
Pileus plane or convex, umbilicate, shining, pores small, scarcely decurrent	P. splendens *Pk.*
Pileus plane or infundibuliform, opake, pores short, small, decurrent	P. perennis *Fr.*

POLYPORUS CIRCINATUS *Fr.*

Ground in the borders of woods. Brewerton. Sept.

POLYPORUS MORGANI *Frost MS.*

Pileus fleshy, plane or convex, hairy-tomentulose, subsquamulose, reddish or brownish, the margin thin; pores short, medium size, subrotund, decurrent, white; stem subequal, elastic, solid, radicating, the subterranean portion black or blackish-brown, the exposed part whitish or pallid, inclining to tawny, velvety or somewhat reticulated, central or eccentric; spores oval, pointed at one end, .0005′ long, .0003′ broad; flesh white.

Plant 3′–5′ high, pileus 3′–4′ broad, stem 3′′–5′′ thick.

Ground in woods. Buffalo *Clinton*. Brewerton. Sept.

This species is evidently closely allied to *P. radicatus* Schw., and *P. melanopus* Fr., but it is in some respects quite diverse from the figure and description of the latter species. The stem sometimes penetrates the earth to a considerable depth, and is quite probably attached to decaying roots or buried pieces of wood. The flesh of the pileus is sometimes quite thick.

The species is very rare, but variable. The Brewerton specimens have the stem central and decidedly velvety, and it may be advisable to separate them as *P. Moryani* var. *velutipes*.

POLYPORUS CUTICULARIS *Bull.*

Old hickory stumps. Brewerton. Sept.

I have seen no specimens with blackened pileus nor with a fimbriate margin. In other respects our plant agrees essentially with the description of the species.

POLYPORUS CHRYSOLOMA *Fr.*

Decaying wood in shaded places. Gansevoort. Aug.

POLYPORUS MOLLUSCUS *Fr.*

Decaying wood. Brewerton. Sept.

TRAMETES TROGII *Berk.*

Decaying trunks of poplar, *Populus monilifera*. Albany. Sept.

HYDNUM FUSCOĀTRUM *Fr.*

Decaying wood. Buffalo. *Clinton*.

HYDNUM CINNABARINUM *Schw.*

Under side of a decaying pine log in woods. Tonawanda. *Clinton*.

HYDNUM ALUTACEUM *Fr.*

Decaying wood and bark. Adirondack Mountains. Aug.

GRANDINIA MEMBRANACEA *P. & C., n. sp.*

Effused, thin, membranaceous, whitish or subalutaceous, sometimes slightly tinged with greenish-yellow or olivaceous; granules numerous, crowded, unequal; spores broadly elliptical or subglobose, slightly rough, .00025′–.0003′ long.

Much decayed wood, leaves, etc. Tonawanda. Oct. *Clinton*.

Apparently allied to *G. papillosa*.

CRATERELLUS CANTHARELLUS *Schw.*

Ground in bushy places. Sandlake. Aug.

This was placed by Schweinitz in the genus Thelephora, section Craterellæ. Our specimens are quite as large as the ordinary form of *Cantharellus cibarius*, which they so closely resemble that they might easily be mistaken for a deformed condition of it. They are not quite as bright-colored as the cantharellus, and sometimes have a slight reddish tint. The margin is generally more lobed and irregular than in *C. cibarius*, and the spores, though yellowish as in that species, have a slight incarnate tint.

CRATERELLUS CLAVATUS *Pers.*

Ground in woods. Brewerton. Sept.

The resemblance of this is with *Clavaria pistillaris*.

The five species now known to occur in our State may be tabulated as follows:

Stem hollow or pervious to the base:	
Hymenium and stem yellow, spores .0004′–.0005′ long...	C. lutescens *Pers.*
Hymenium and stem subcinereous or brown.	
Pileus tubiform, spores .0005′–.0007′ long.....	C. cornucopioides *L.*
Pileus expanded or funnelform, spores .00025′–.0003′ long	C. dubius *Pk.*
Stem solid:	
Hymenium and stem similarly colored, spores .0003′ long.	C. Cantharellus *Schw.*
Hymenium darker than the stem, spores .0004′–.0005′ long	C. clavatus *Pers.*

CORTICIUM POLYPOROIDEUM *B. & C.*

Decaying wood. Buffalo. *Clinton.*

CORTICIUM SUBRUFUM *B. & Cke.*

Dead branches. Center. Sept.

THELEPHORA RADIATA *Holmsk.*

Ground under pine trees. Center and Providence. Aug. and Sept.

CLAVARIA FASTIGIATA *L.*

Among mosses and under pine trees. Adirondack Mountains and Ganse-voort. Aug.

CLAVARIA FORMOSA *Pers.*

Ground in woods. Sandlake and Gansevoort. Aug.

CLAVARIA CORRUGATA *Karst.*

Ground in pine woods. West Albany. Sept.

CLAVARIA FLACCIDA *Fr.*

Ground in woods, also under spruce trees. Sandlake, Center and Adirondack Mountains. Common.

A form sometimes occurs with the tips of the branchlets white.

PTERULA DIVARICATA *n. sp.*

Tufts lax, whitish or rufescent, about one inch high; stems slender, irregularly branched; branches widely diverging, slender and gradually tapering to a long slender subulate point.

Among fallen leaves and on half-buried decaying wood. South Corinth, Saratoga County. Aug.

The lax habit and slender widely diverging branches distinguish this species from its allies.

TREMELLA SUBCARNOSA *n. sp.*

Small, tufted, compressed, irregular, wavy or contorted, subcarnose, whitish or pinkish-alutaceous, brownish-incarnate and more or less glaucous when dry; spores obovate, pointed at the base, .0002′–.0003′ long, .00016′ broad.

Tufts 2″–4″ high and broad.

Decaying wood of deciduous trees. Carlisle, Schoharie County. June.

The affinities of this species are doubtful. It is provisionally referred to the genus Tremella, although the central portion of the substance is fleshy rather than gelatinous. The external portion, however, is gelatinous and the plants revive upon the application of moisture, and are then somewhat tremelloid, though not very tenacious. Usually two or more are clustered together and form beautiful little rosettes.

DACRYMYCES CONGLOBATUS *n. sp.* (Plate I, figs. 1–4.)

Scattered, sessile, even, peziziod, about one line broad, with the thin margin incurved, pink-red, paler within, dark-red when dry, with the margin plicate-lobed; threads slender, branched, minutely rough; spores collected in subglobose tufts at the tips of the branches, oblong, obtuse, curved, sometimes nucleate, .0003′–.0004′ long.

Bark of arbor-vitæ, *Thuja occidentalis*. Adirondack Mountains. July.

Our plant does not well agree with the generic character of the Dacrymyces in its fruit, but its external appearance is so similar to other species of the genus that it seems best for the present to place it here. The specific name has reference to the arrangement of the spores.

MELANOGASTER VARIEGATUS *Tul.*

Ground in shaded roads in woods. Sandlake. Aug.

RHIZOPOGON RUBESCENS *Tul.*

Sandy soil. Center. Sept.

CYNOPHALLUS CANINUS *Fr.*

Ground about an old stump. Oneida. *H. A. Warne.*

This species is described as odorless, yet according to Mr. Warne these specimens had a very disagreeable odor.

PHALLUS RAVENELII *B. & C.*

Ground in woods. Thurman. Oct.

The description of this species is very imperfect. The specimens were identified by comparison with Mr. Ravenel's notes which he kindly submitted to my inspection. The stem is four or five inches long, the denuded pileus is porous, the pores or cavities of the under or inner surface being larger than the others and giving a somewhat reticulate-pitted or cellular appearance, and there is a short veil at the top of the stem, but concealed beneath the pileus.

The following synoptical tables will exhibit the prominent distinctive features of the species of Phallus of this State and the United States, so far as I am able to get them from the published descriptions and the specimens at my command:

New York Species of Phallus.

Denuded pileus reticulate with coarse deep pits or cells.	
Veil exposed, reticulate with small perforations	P. Dæmonum *Rumph.*
Veil none	P. impudicus *L.*
Denuded pileus porous, veil not perforate, concealed	P. Ravenelii *B. & C.*

United States Species of Phallus.

Denuded pileus reticulate with coarse deep pits or cells.	
Veil exposed.	
Large and reticulate with large perforations	P. Industiatus *Vent.*
Smaller and reticulate with small perforations	P. Duomonum *Mont.*
Smaller and plicate	P. duplicatus *Bosc.*
Veil none	P. impudicus *L.*
Denuded pileus even or merely porous.	
Veil short, concealed beneath the pileus	P. Ravenelii *B. & C.*
Veil none	P. rubicundus *Bosc.*

CLATHRUS CANCELLATUS *L.*

Buffalo. *Clinton.*

GRASTER CAPENSIS *Thum.*

Ground in woods. Sterling, Cayuga County. Aug.

EXERTHRENEMA PAPILLATA *Perr.*

Decaying hemlock wood. Catskill Mountains. July.

CRIBRARIA VULGARIS *Schrad.*

Decaying wood. Catskill Mountains. July.

ACROSPERMUM ALBUM *n. sp.*

White, subfusiform, subcompressed, pointed at the apex, narrowed below into a short terete stem-like base; spores numerous, elongated, filiform.

Dead stems of spikenard, *Aralia racemosa*. Catskill Mountains. July.

This is about the size of *A. compressum*, but is at once distinguished from that species by its white color.

SPHÆROPSIS PECKIANA *Thum.*

Dead grape vines. Albany. May.

SPHÆROPSIS PULCHRISPORA *P. & C., n. sp.*

Perithecia small, scattered, slightly prominent, covered by the epidermis, black; spores oblong or cylindrical, obtuse, straight or curved, three to five-nucleate, hyaline, .0006′–.0008′ long, .0002′–.00025′ broad.

Dead stems of Polygonum. Buffalo. Oct. *Clinton.*

SPHÆROPSIS TYPHINA *n. sp.*

Perithecia scattered, subconical, slightly prominent, often compressed, black; spores fusiform, pointed at each extremity, colored, .0006′ long, .00016′ broad.

Dead leaves of *Typha latifolia*. Sprakers. June.

The fusiform pointed spores are a noticeable character in this species.

SPHÆROPSIS CORNINA *n. sp.*

Perithecia numerous, not crowded, minute, nearly covered by the stellately ruptured epidermis, black, mouth large; spores oblong, obtuse, hyaline, .0012′–.0016′ long, .0005′–.00055′ broad.

Dead branches of green osier, *Cornus circinata*. Sprakers. June.
The species is allied to *S. Pennsylvanica*, but the spores are considerably larger than in that species.

DEPAZEA JUGLANDINA *Fr.*

Living leaves of butternut, *Juglans cinerea*. Albany. Aug.
The perithecia occur on greenish-gray or brown spots which are sometimes large and confluent.

SEPTORIA ALBANIENSIS *Thum.*

Living leaves of the shining willow, *Salix lucida*. Sandlake. Aug.

SEPTORIA CANADENSIS *n. sp.*

Spots large, sometimes confluent, pallid or subalutaceous, surrounded by a darker purplish border; perithecia epiphyllous, small, scattered, black; spores filiform, nearly straight, .001′–.0015′ long.

Living leaves of dwarf cornel, *Cornus Canadensis*. Sandlake. May.

VERMICULARIA COMPACTA *C. & E.*

Dead stems of raspberry, *Rubus strigosus*. Green Island. June.
This form is referred to var. *Ruborum*.

TORULA RAMOSA *n. sp.*

Effused, thin, black, threads septate, bearing terminal and lateral strings of globose colored spores, .0003 in diameter, one or two of the lower ones sometimes elliptical or pyriform.

Decaying pine wood. North Greenbush. Sept.

SEPTOSPORIUM VELUTINUM *C. & E.*

Bark of maple and wood of hornbeam. Copake and Mechanicsville. Oct.
Two forms occur, one effused and the other tufted.

PUCCINIA SCIRPI *Lk.*

Culms of *Scirpus cæspitosus*. Mount Marcy. July.

SYNCHYTRIUM ANEMONES *DC.*

Living stems and leaves of *Anemone nemorosa*. West Albany. April.

PROTOMYCES CONGLOMERATUS *n. sp.*

Spores imbedded in the tissues of the stems, large, globose, colored, .0016′–.002′ in diameter, collected together in groups or clusters and forming small protuberances or tubercles on the dry stems.

Stems of the common saltwort, *Salicornia herbacea*. Syracuse. Sept.
This species is remarkable for the large size of the spores and their clustered mode of growth.

ISARIA PULVIPES *n. sp.*

Scattered or rarely cæspitose, clavate, one or two lines high; club whitish or cinereous, farinose, obtuse; stem short, orange-tawny or bright ochraceous;

spores minute, ovate or subelliptical, about .0001' long, interspersed among short threads which often bear short widely diverging processes.

Dead stems of herbs. North Greenbush. June.

It may be separated from *I. clavata* and other similar species by its bright-colored stem.

TUBERCULARIA SIRTISSIMA *n. sp.*

Tubercles small, one-half to one line broad, orbicular, depressed, yellow or pale orange, clothed with long wooly hairs, which usually conceal them; spores elongated, cylindrical, colorless, .0008' long, about one-sixth as broad.

Fallen ash leaves, *Fraxinus sambucifolia*. South Corinth. Aug.

This species is remarkable both for its hairy investment and its elongated spores.

TUBERCULARIA SUBDIAPHANA *Schw.*

Dead stems of grape vines. Buffalo, *Clinton*.

TUBERCULARIA FLOCCOSA *Lk.*

Dead branches of sumach, *Rhus typhina*. Catskill Mountains. July.

PERICONIA ALBICEPS *n. sp.* (Plate I, figs. 8–11.)

Stems short, .02'–.03' high, equal or slightly tapering upwards, black, head white, subglobose; spores oblong or subfusiform, colorless, .0003'–.0006' long.

Dead stems of snake-head, *Chelone glabra*. Sandlake. May.

It sometimes occurs in great abundance, surrounding the stems on all sides nearly their entire length.

HELMINTHOSPORIUM OBOVATUM *Berk.*

Decaying chestnut wood. Copake. Oct.

CLADOSPORIUM COMPACTUM *B. & C.*

Dead or languishing leaves of rye. Carlisle. June.

At first sight this might be taken for some small Sphæria, so well do the small black compact tufts simulate sphæriaceous perithecia. The spores vary in length from .001'–.0016'. They sometimes equal the flocci in length, and in shape are either elliptical, obovate or oblanceolate.

HETEROSPORIUM ORNITHOGALI *Klotsch.*

Dead or languishing leaves of garlic, *Allium vineale*. North Greenbush. May.

FUSICLADIUM DENDRITICUM *Wallr.*

On apples. Catskill Mountains. July.

This attacks the apples while yet on the tree, and forms orbicular brown or greenish-brown velvety spots on them. It also occurs on the leaves.

CERCOSPORA ROSÆCOLA *Pass.*

Living rose leaves. Albany. June.

CERCOSPORA APII *Frss.*

Living parsnip leaves. Richmondville. Sept.

PERONOSPORA FICARIA *Tul.*

Living leaves of crowfoot, *Ranunculus recurvatus.* Center. April.

PERONOSPORA CORYDALIS *De By.*

Living leaves of squirrel-corn, *Dicentra Canadensis.* Helderberg Mountains. May.

This form varies somewhat from the European form on leaves of Corydalis, but perhaps not sufficiently to warrant its separation as a species. It usually occupies the whole lower surface of the leaves.

PERONOSPORA GANGLIFORMIS *Berk.*

Living leaves of milkweed, *Mulgedium leucophæum.* Central Bridge and Catskill Mountains. June and July.

VERTICILLIUM LATERITIUM *Ehr.*

Decaying wood. Buffalo. Oct. *Clinton.*

POLYACTIS CINEREA *Berk.*

Dead stems of herbs. Greenbush. May.

The fungus was found growing from a black Sclerotium.

PENICILLIUM BICOLOR *Fr.*

Decaying fungi, leaves, etc. Sandlake. Aug.

SPONDYLOCLADIUM TENELLUM *n. sp.*

Patches thin, effused, subolivaceous; flocci somewhat tufted, erect, slender, simple or rarely branched, septate, brown, .006′–.014′ high; spores in verticels of two to four at the septa, oblong, simple, pale, .00045′–.0005′ long, .00016′–.0002′ broad.

Dead stems of stone root, *Collinsonia Canadensis.* North Greenbush. October.

This species is distinguished from *S. fumosum* by its simple spores and the olivaceous hue of the patches, which to the naked eye appear like a thin floccose tomentum.

OIDIUM DESTRUENS *n. sp.*

Effused on large brown spots, odorous, whitish or pale cinereous; flocci of two kinds, the sterile spreading, much branched, closely appressed to the matrix, the fertile erect or decumbent, somewhat branched, forming moniliform strings of spores; spores unequal in size and variable in shape, elliptical subglobose or angular, sometimes with an apiculus at each end, .0002′–.0006′ long.

Living leaves of *Amelanchier Canadensis* and *Prunus serotina.* Center and Sandlake. May and June.

This fungus quickly destroys the vitality of the leaves it attacks, but fortunately its ravages are not extensive, only a few leaves on a tree being

attacked. Usually a large brown spot is produced by the fungus in the center of the leaf, the margin of the leaf remaining green. The affected leaves soon shrivel and wither. In the case of the cherry leaves scarcely any green margin was left, and so rapid was the spread of the fungus that nearly the entire leaf was discolored while it yet remained soft and flexible. A peculiar and decided odor is diffused either by the affected leaves or the fungus. This odor is perceptible in the dried specimens for a long time. The leaves of the shad-bush are attacked along the midvein and veins. Sometimes the unripe fruit is also attacked, the fungus causing it to rot quickly. Its destructive character has suggested the specific name.

RAMULARIA EFFUSA *n. sp.*

Hypophyllous, effused, whitish; spores very variable, globose, obovate, elliptical, oblong or cylindrical, .00016–.0011′ long, about .0002 broad, occasionally uniseptate.

Living leaves of black huckleberry, *Gaylussacia resinosa*. Center. July.

This species seems to be intermediate between Oidium and Ramularia. It occupies the whole lower surface of the leaves, and often affects all the leaves on a branch. The same or a similar species occurs on leaves of *Cassandra calyculata*.

RAMULARIA VARIABILIS *Fckl.*

Living leaves of mullein, *Verbascum Thapsus*. Catskill Mountains. July.

The spots are rather small in proportion to the size of the leaf, and when fertile are beautifully frosted on both sides by the fungus.

RAMULARIA ALBOMACULATA *n. sp.*

Spots suborbicular, two to three lines in diameter, sometimes confluent, pale yellowish-green on the upper surface, whitened by the fungus on the lower surface, at length becoming purplish or brown; spores oblong or elliptical, generally binucleate, .0003′–.0004′ long, .00016′ broad.

Living leaves of hickory, *Carya alba*. Albany and Greenbush. June and July.

The spots are sometimes limited by the veinlets of the leaf and consequently angular. The fungus is thus far limited to the lower surface. In some instances there appeared to be creeping filaments indicating an intimate affinity with Oidium.

RAMULARIA ANGUSTATA *n. sp.*

Spots small, orbicular, sometimes confluent, pale greenish-yellow, frosted beneath by the fungus; flocci minute; spores narrowly fusiform or subcylindrical, .0003–.0004′ long, about .0001′ broad, often containing two or three nucleoli.

Living leaves of pinxter plant, *Azalea nudiflora*. Central Bridge and Carlisle. June.

The specific name has reference to the very narrow spores.

RAMULARIA NORVEGICÆ *n. sp.*

Spots irregular, often confluent, brown or reddish-brown; flocci tufted, short, blunt; spores narrow, oblong or cylindrical, straight, .0005′–.0012′ long, .00015′ broad, the longer ones sometimes uniseptate.

Living leaves of Norwegian cinquefoil, *Potentilla Norvegica*. West Albany. June.

RAMULARIA FRAGARIÆ *n. sp.* (Plate II, figs. 15–17.)

Spots small, suborbicular, arid, whitish surrounded by a purplish boarder; flocci short, tufted; spores cylindrical, straight or slightly curved, .0008′–.0012′ long.

Living leaves of the common strawberry, *Fragaria Virginiana*. Knowersville, Center and Carlisle. May and June.

The spots are often sterile, so that it is sometimes difficult to find the spore-bearing fungus.

RAMULARIA LINEOLA *n. sp.*

Spots suborbicular, sometimes confluent, brown, adorned with fine concentric lines; flocci obscure, tufted, hypophyllous; spores slender, cylindrical, obtuse, often uniseptate, .0005′–.0008′ long.

Living leaves of dandelion, *Taraxacum Dens-leonis*. Greenbush. July.

The fungus is extremely minute and scarcely visible to the naked eye.

RAMULARIA PLANTAGINIS *n. sp.*

Spots suborbicular, sometimes confluent, brown; flocci tufted, amphigenous; spores oblong or cylindrical, obtuse, .0008′–.0016′ long, .0002′–.00025′ broad, sometimes uniseptate.

Living leaves of English plantain, *Plantago lanceolata*. Carlisle. June.

GLOMERULARIA *gen. nov.*

Flocci short; spores adhering together in masses.

This is a genus of Hyphomycetes, order Mucedines, and is apparently allied to the genus Ramularia, from which it is distinct not only by the shape of the spores, but also by their peculiar habit of adhering together in heaps or masses. Although but the single species here described is known to me, it is so unlike any other fungus with which I am acquainted that I am compelled to make a genus for it.

GLOMERULARIA CORNI *n. sp.* (Plate II, figs. 10–14.)

Spots orbicular, sometimes confluent, brown, surrounded by a purplish margin; flocci short, obscure, hypophyllous, bearing irregular suboval masses of white spores; spores globose, rough, .0004′–.0005′ in diameter, the masses .0012′–.0016′ long, .0008′–.001′ broad, usually containing about six spores each.

Living leaves of dwarf cornel, *Cornus Canadensis*. Catskill and Adirondack Mountains. July.

In the small spots the whole under surface is whitened by the masses of spores, in the large ones the spore masses form marginal bands or patches.

SPOROTRICHUM SULPURBUM *Grev.*

Fallen oak leaves. North Greenbush. June.

SPOROTRICHUM VIRESCENS *Lk.*

Decaying wood. Buffalo. *Clinton.*

SPOROTRICHUM ALUTACEUM *Schw.*

Decaying elm wood. Bethlehem. Oct.

SPOROTRICHUM LARVATUM *n. sp.*

Tufts confluent, dense, soft, white or yellowish, coating the whole matrix; threads very slender, simple or branched; spores abundant, minute, globose, .00008–.00012′ in diameter.

Dead larvæ under alder bushes. Adirondack Mountains. July.

This species is remarkable for its peculiar habitat. In some specimens nearly the whole mass of flocci appears to have been transformed into spores, in which cases the surface is quite pulverulent.

ACREMONIUM FLEXUOSUM *n. sp.* (Plate I, figs. 16–18.)

Effused, thin, soft, woolly, white, sometimes tinged with yellow or cream-color; threads branched, the branches widely diverging, sometimes opposite, narrowed and flexuous toward the tips and armed with alternate pointed spicules; spores oval or elliptical, colorless, .0005′–.0008′ long, .0003′–.0005′ broad.

Decaying wood. Griffins, Delaware County. Sept.

Apparently allied to *A. album*, but distinct from it by the flexuous terminal portions of the branches and their alternate pointed teeth or spicules.

SEPEDONIUM CERVINUM *Ditlm.*

Parasitic on *Peziza macropus*. Brewerton. Sept.

In the typical form the spores are said to be yellowish-brown. In our specimens they are of a dull flesh color, globose, rough, .0005′–.0006′ in diameter, with a short blunt appendage. It seems to be worthy of separation as a variety at least, and may be called *S. cervinum* var. *subincarnatum.*

SEPEDONIUM BRUNNEUM *n. sp.*

Effused, pulverulent, brown; spores globose, rough, .0008′–.001′ in diameter.

Decaying fungi. Ganseveort. Aug.

The snuff-brown color and large spores destitute of an appendage are the distinctive features of this species.

MORCHELLA ANGUSTICEPS *n. sp.* (Plate I, figs. 19–21.)

Pileus oblong-conical and subobtuse or narrowly conical and acute, adnate to the stem, one to two inches high, and about half as broad at the base; ribs longitudinal, here and there anastomosing or connected by transverse veins; stem subequal, hollow, whitish, furfuraceous without and within, even or rarely

rough with irregular longitudinal furrows; asci cylindrical; spores elliptical, whitish tinged with ochre, .0008′–.001′ long, .0005′–.0007′ broad; paraphyses short, clavate, with one or two septa near the base.

Sandy soil in the borders of woods and in open places. West Albany and Center. April and May.

Two forms occur, one with the pileus oblong-conical, rather obtuse, often tipped with a slight umbo or papilla, and with a diameter a little surpassing that of the stem from which the base is separated by a slight groove; the other with the pileus narrowly conical, rather acute, scarcely exceeding the stem in diameter, and without any separating groove. The stem and fruit are alike in both forms. The stem is usually about equal in length to the pileus. The species is related to *M. conica* and *M. elata*, but may be separated from both by the size of the spores and the character of the paraphyses. In our plant I have never seen these as long as the asci. Large forms appear also to approach *M. rimosipes*, but that species has the margin of the pileus more free, the stem proportionately longer, and the paraphyses as long as the asci, if we may rely upon the figure of it. Our plant is edible.

GYROMITRA CURTIPES *Fr.*

Wet banks. Knowersville. May. Also Buffalo. *Clinton.*

The spores in our specimens are often trinucleate, the central nucleus being the largest. The species may be separated from *G. esculenta* by its paler color, shorter stem and different spores.

GEOGLOSSUM IRREGULARE *n. sp.* (Plate I, figs. 5–7.)

Glabrous, yellow, solid, fleshy, soft but rather tough, clavate; club subcompressed, obtuse, irregular, often lobed, curved or twisted, tapering below into the short, paler or whitish solid distinct stem; asci cylindrical, often two or three united together at the base; spores uniseriate, elliptical, colorless, .0003′–.0004′ long, .0002′ broad; flesh white.

Plant 1′–2′ high. Damp mossy ground in woods. Sandlake. Oct.

This species is allied to *G. luteum*, from which its irregular club and glabrous stem readily distinguish it. *Mitrula crispata*, of which we have seen no authentic specimens, is said to have similar spores; but if that species is properly referred to the genus Mitrula, it must be different from our plant, which is a true Geoglossum, agreeing fully with the description of that genus, but not agreeing with the published characters of the genus Mitrula, for the club is neither "ovate," "capitate" nor "inflated." This species, with *G. luteum*, *G. rufum* and *G. pistillare*, forms a natural group of closely related and clearly congeneric forms.

PEZIZA RUPLECTA *Ck.*

Shaded banks in ravines. Knowersville. May.

Our specimens vary somewhat from the characters expressed by the figure and description of this species, but scarcely enough to warrant their separation.

PEZIZA MELASTOMA *Sow.*

Mossy sticks on the ground. Catskill Mountains. July.

Our specimens are black without and within, and do not show any rubiginous color or orange-colored granules, but in other respects they agree with the description of the species.

PEZIZA APICULATA *Ck.*

Decaying wood. Stamford, Delaware County Sept.

The specimens differ from the type in being blackish-brown, in having the tips of the spores colored and in their habitat. Possibly they should constitute a distinct species, but the agreement with the description is so good in other respects, that for the present I have concluded to refer them to this species.

PEZIZA (HUMARIA) TETRAGONALIS *n. sp.*

Cups sessile, one to two lines broad, externally cinereous, the margin sometimes wavy or flexous, the disk blackish or blackish-brown; asci cylindrical, truncate at the apex; spores uniseriate, elliptical, smooth, colorless, .0006′–.0007′ long, .0003′ broad.

Partridge dung. Catskill Mountains. July.

This plant is about equal in size to *P. gallinacea*, which also has the same habitat, but its darker disk and longer spores require its separation. It does not harmonize well in color with other species of Humaria. It is a rare species with us

PEZIZA (HUMARIA) HUMOSOIDES *n. sp.*

Cups small, scarcely more than half a line broad, sessile, scattered or crowded, orange inclining to vinous-red, the disk plane or slightly convex, scarcely margined; asci short, cylindrical or clavate; spores crowded, elliptical, smooth, .0008′–.001′ long, .0005′ broad; paraphyses filiform, slightly thickened at the apex.

Dung of some wild animal. Catskill Mountains. July.

The cups are attached to the matrix by a few whitish filaments. The peculiar habitat and small size indicate its distinctness from *P. humosa*.

PEZIZA (DASYSCYPHÆ) LONGIPILA *n. sp.*

Cups gregarious, small, .014′–.02′ broad, narrowed below into a short stem, hirsute with long septate brown hairs; disk whitish, when dry concealed by the hairs of the margin; asci cylindrical; spores oblong, hyaline, straight or slightly curved, .00033′ long, .00012′ broad.

Dead stems of *Eupatorium maculatum*. Adirondack Mountains. July.

PEZIZA (DASYSCYPHÆ) URTICINA *n. sp.*

Cups minute, .007′–.014′ broad, sessile, subglobose and hyaline when moist, with the mouth contracted, whitish when dry, pulverulent-hairy; asci subfusiform; spores crowded or biseriate, fusiform, .0004′–.0005′ long; paraphyses filiform.

Dead stems of nettle, *Urtica Canadensis*. Catskill Mountains. July.

The species is apparently near *P. translucida*. The hairs in our plant are appressed and arranged in such a manner that when moist the cups appear somewhat longitudinally striate. When dry the disk is generally concealed. The plants are so small that to the naked eye they appear like mere white grains.

PEZIZA AURATA *Fckl.*

Decaying wood and bark. Catskill Mountains. July.

PEZIZA MELALEUCA *Fr.*

Decaying wood. Summit. Sept.

The plant of Fries is regarded by some as a Patellaria. Our specimens, though agreeing tolerably well with the description of *P. melaleuca*, clearly belong to the genus Peziza. There is therefore some doubt concerning their identity, but for the present we thus refer them. It is to be regretted that the description of *P. melaleuca* makes no mention of the fruit, otherwise all doubt might be removed.

PEZIZA (MOLLISIA) TYPHÆ *n. sp.*

Cups scattered, small, .008′–.014′ broad, sessile, nearly plane, black, the disk dingy-whitish; asci subcylindrical, short, .0012′–.0016 long; spores minute, sublanceolate, .0003′ long.

Dead leaves of *Typha latifolia*. Carlisle June.

PEZIZA (MOLLISIA) SPHÆRELLA *P. & C., n. sp.*

Cups minute, .005′–.0055′ broad, sphæriform or subglobose, sessile, glabrous, black, at first closed, then opening by a small poriform mouth; asci subcylindrical, .0012′–.0014′ long; spores crowded or biseriate, oblong, usually binucleate, .0004′–.0005′ long; paraphyses filiform.

Dead stems of red clover, *Trifolium pratense*. Buffalo. Oct. *Clinton.* At first sight the plants might be taken for some small black Sphæria.

PEZIZA (MOLLISIA) ENTEROCHROMA *n. sp.*

Cups scattered or gregarious, at first cylindrical or clavate, then expanded, plane, about one line broad, subtremelloid, scarcely margined, supported on a short stem, yellowish, becoming reddish-brown or chestnut-colored when dry; asci cylindrical; spores fusiform, yellowish, .0008–.001′ long, .00025′–.0003′ broad; paraphyses filiform, thickened at the tips.

Fallen twigs of arbor-vitæ, *Thuja occidentalis*. Adirondack Mountains. July.

This species belongs to the subsection Claviformes, or perhaps better to the modern genus Ombrophila, being allied to *O. stibaurea*, from which it differs in its color and larger spores. When dry the cups become quite concave. When crushed and moistened the flesh is greenish-yellow.

HELOTIUM LUTESCENS *Fr.*

Fallen spruce branches. Summit. Sept.

HELOTIUM FRATERNUM *n. sp.* (Plate I, figs. 12–15.)

Cups stipitate, plane or slightly concave, .5–1′ broad; disk pallid or yellowish, becoming more concave and dull red in drying, externally paler; stem about equal in length to the diameter of the cup; asci clavate or cylindrical; spores crowded, cylindrical or subfusiform, .00065′–.0008′ long; paraphyses filiform, numerous, scarcely thickened at the tips; flesh rather thick and firm.

Petioles of fallen maple leaves. Adirondack Mountains. July.

This species is closely related to *H. gracile* and *H. fusisporum*, which relationship suggests the specific name. It imitates the latter species in its habitat, but I have not found it except on the petioles and occasionally the midveins of maple leaves.

HELOTIUM PALLIDUM *n. sp.*

Cups stipitate, plane or slightly convex, pallid or whitish; stem 3"–6" long, slightly thickened at the base; asci subclavate; spores oblong, .0004'–.0006' long.

Fallen leaves in wet places. Smallake. May.

In the dried specimens the hymenium assumes a dark reddish-brown or chestnut color. The stem is long in proportion to the size of the cup.

HELOTIUM VIBRISSOIDES *n. sp.* (Plate II, figs. 7–9.)

Cups sessile, 1 –2" broad, immarginate, externally blackish or blackish-green, the disk plane or convex, livid-white or blackish-green; asci very long, linear; spores elongated, filiform, very slender, sometimes becoming coiled, bursting forth and covering the disk with a whitish webby stratum.

Decaying sticks lying in water. Smallake and Catskill Mountains. May and July.

Externally this fungus has the appearance of a Helotium, but the fructification is exactly that of a Vibrissea. It seems to me that it really belongs to the genus Vibrissea, but I am prevented from placing it there because in the absence of a stem it fails to meet fully the published characters of that genus. I am fully persuaded that some of the genera of fungi are imperfectly characterized, and that we cannot have a satisfactory arrangement of our species until these defective descriptions are modified or revised.

PATELLARIA PUSILLA *n. sp.*

Cups sessile, small, .014'–.028' broad, slightly margined, the disk plane or convex when moist, slightly concave when dry, black; asci clavate; spores crowded or biseriate, lanceolate or subclavate, 6–8-nucleate, .00065'–.0008' long, .0001'–.00012' broad; paraphyses numerous, filiform, not thickened at the apex.

Decaying beech wood. Catskill Mountains. July.

The spores in shape are similar to those of *P. atrata*. They are extremely narrow and probably become 5–7-septate when fully mature.

DERMATEA MINUTA *n. sp.*

Cups minute, .009'–.017' broad, numerous, scattered or sometimes two or three crowded together, attached by a small point, grayish, the disk subochraceous, margin obsolete, disk plane or convex; asci oblong-clavate; spores crowded, oblong-elliptical, .0008'–.001' long, colorless, simple; paraphyses filiform, thickened at the apex.

Dead stems of hobble-bush, *Viburnum lantanoides*. Catskill Mountains. July.

This is the smallest species of Dermatea known to me.

BULGARIA BICOLOR *n. sp.* (Plate II, figs. 4–6.)

Cups irregular, expanded, sessile, appressed, about an inch broad, externally gelatinous, whitish or subolivaceous, the disk reddish-brown or dark watery-chestnut; asci cylindrical; spores uniseriate, elliptical, .0009′–.0011′ long, .00045′–.0005′ broad; paraphyses filiform, thickened at the tips, brownish.

Wet decaying birch wood Brewerton. Sept.

The spores are generally furnished with one or two large nuclei. The contrast between the dark color of the disk and the light color of the cup suggests the specific name.

BULGARIA DELIGATA *n. sp.* (Plate II, figs. 1–3.)

Cups small, 1′–2′ broad, plane or convex, scattered or crowded, sessile, the margin obliterated, purplish-black when moist, black and more or less angular when dry, surrounded at the base by whitish filaments which bind them to the matrix; spores elliptical, uniseriate, binucleate, .001′–.0013′ long, .0006′–.0007′ broad; paraphyses numerous, filiform, thickened above, slightly colored.

Wet decaying hemlock wood. Catskill Mountains. July.

The numerous white filaments that appear to bind the cups to the matrix, constitute a marked feature in this species, and suggest the specific name.

EXOASCUS PRUNI *Fckl.*

Immature fruit of sand cherry and wild plum, *Prunus pumila* and *P. Americana*. Center and Carlisle. May and June. Also Buffalo. *Clinton.*

When the fruit of the sand cherry is attacked by this fungus, it enlarges in size, becomes elongated and pointed, soft and discolored. Sometimes it assumes a bright-red hue, but usually a pale whitish-green or yellowish-green varied somewhat by red or pinkish tints. The pit even is destroyed, and the whole texture of the pulp is changed. Rarely the leaves also are attacked, in which case they become swollen, distorted and discolored.

The fruit of the wild plum, when attacked, becomes enlarged and soft, and assumes a whitish or pale green color, but does not become elongated or pointed. Of course, its value as a fruit is wholly destroyed. At Carlisle, one tree was observed which had been cultivated in a court-yard, and which had all of its fruit affected by this fungus.

TAPHRINA AURBA *Fr.*

On catkins of poplar, *Populus grandidentata*. Albany and North Greenbush. May.

The propriety of keeping this and the preceding species generically distinct is perhaps doubtful, but I give the names as I find them.

HYPOMYCES LUTEOVIRENS *Fr.*

On decaying Russula. Center. Sept.

The spores in our specimens are longer than required by the description of the species to which we have referred them. They are .0012′–.0015′ in length, acuminate at each end, and at length uniseptate. The asci are very long and slender.

DOTHIDEA RETICULATA *Fr.*

Dead leaves of some liliaceous plant, apparently *Smilacina bifolia*. Summit. Sept.

HYPOXYLON UDUM *Fr.*

Decaying poplar wood. Gansevoort. Aug.

DIATRYPE VERRUCOIDES *n. sp.*

Pustules small, verruciform, covered by the epidermis, which is longitudinally or stellately split, the lacinim closely adhering; stroma blackish externally, whitish within, sometimes coated above with a thin cinerous tomentum; ostiola black, depressed, stellately sulcate; perithecia three to eight in a pustule; asci clavate; spores simple, cylindrical, straight or slightly curved, .0008′ long, .00016′ broad.

Dead beech twigs. Stamford. Sept.

The pustules bear some resemblance to those of *Diatrype verrucaformis*, but they are generally smaller. They penetrate to the wood, and are surrounded by a more or less distinct black line.

VALSA PULVINICEPS *n. sp.*

Perithecia 8–12 in a pustule, sunk to the wood, covered by the bark; ostiola erumpent, crowded, prominent, black, forming an orbicular cushion-shaped mass; asci clavate; spores crowded, subelliptical or broadly fusiform, multinucleate, slightly colored, .0004′–.0006′ long.

Dead stems of elder, *Sambucus Canadensis*. Richmondville. Sept.

This is apparently very unlike *V. abnormis*, which is said to inhabit Sambucus.

VALSA SORBI *Fr.*

Dead branches of mountain ash, *Pyrus Americana*. Adirondack Mountains. July.

LOPHIOSTOMA BICUSPIDATA *Ck.*

Dead stems of thimble berry, *Rubus odoratus*. Catskill Mountains. July.

This is the variety with spores .0012′ long. The colorless cusps at the tips of the spores are well shown.

SPHÆRIA SQUAMULATA *Schw.*

Decaying wood. Catskill Mountains. Sept.

It is with some hesitation that our specimens are referred to this species, for the "black crust" required by the description is not clearly present; indeed, it is in some instances clearly absent; and the ostiola, which are described as "rather thick," in our specimens are compressed as in the genus Lophiostoma. In other respects the agreement with the description is good so far as the description goes. But no diagnosis is given of the fruit, and I am informed that no specimens of the species are to be found in Schweinitz's Herbarium, so that it is scarcely possible to remove all uncertainty. In our specimens the asci are clavate; the spores are crowded, oblong-fusiform, uniseptate, constricted in the middle, colorless, .0015′–.0018′ long, containing from four to six nuclei.

SPHÆRIA SUBICULATA *Schw.*

Decaying wood. Catskill Mountains. July.

Sphæria mutans scarcely differs from this species except in the color of the tomentum, and sometimes in the larger size of the perithecia. It is doubtful if the two ought to be kept separate.

SPHÆRIA (VILLOSÆ) INTRICATA *n. sp.*

Perithecia scattered or crowded, more or less elongated, obtuse, subventricose, generally narrowed at the base, blackish-brown, tomentose-hairy; asci slender, elongated; spores crowded, elongated, linear, more or less curved or flexuous, greenish-yellow, .0016′–.002′ long.

Decaying wood and leaves in damp places. Sandlake.

This species partakes of the characters of several others, but is perhaps most likely to be confounded with *S. hirsuta* or *S. strigosa*. The perithecia, though smaller, resemble in shape those of *S. bombarda*. The spores are very similar to those of *S. hirsuta* and *S. ovina*. From *S. strigosa* it is separated by its peculiar soft matted hairs or tomentum.

SPHÆRIA (VILLOSÆ) SCOPULA *C. & P., n. sp.*

Perithecia scattered or crowded, small, .006–.008′ broad, very black, subglobose, bristly with short, rigid black hairs; asci lanceolate or subclavate; spores crowded or biseriate, linear or slightly narrowed toward each end, multinucleate, obscurely multiseptate, greenish-yellow, .0025′–.003′ long, .00016 broad.

Decaying hemlock wood. Adirondack Mountains. Aug.

The spores are often slightly curved

SPHÆRIA (BYSSISEDÆ) ALBIDOSTOMA *n. sp.*

Perithecia numerous, subcrowded, small, .014′–.018′ in diameter, subglobose, seated upon or involved in a black or blackish-brown tomentum, the ostiola naked, not prominent, whitish when moist, darker when dry; asci cylindrical; spores biseriate, oblong-fusiform, at first uniseptate, constricted at the septum and containing two or three nuclei in each cell, then 3–5-septate, colorless, .0015′–.0018 long, .0003′–.00035′ broad.

Dead branches of mountain maple, *Acer spicatum*. Catskill Mountains. September.

The whitish ostiola constitute a marked feature in this species. Its affinity is apparently with *S. nidulans*.

SPHÆRIA (BYSSISEDÆ) CLAVARIINA *n. sp.*

Perithecia small, subovate, clothed with rigid blackish-brown hairs and seated on a blackish-brown subiculum; asci cylindrical; spores uniseriate, oblong-elliptical or subfusiform, containing one or two nuclei, at first colorless, then brown, .0004′–.0005′ long, about half as broad.

Stems and branches of *Clavaria cristata*. Sandlake. Aug.

The Clavaria, when attacked by this fungus, becomes distorted and discolored.

SPHÆRIA (CERATOSTOMÆ) SUBDENUDATA *n. sp.*

Perithecia immersed or superficial, subglobose, .02′–.025′ broad, black, sometimes bearing a few scattered straight black hairs; ostiola cylindrical, straight or slightly curved, blunt, sometimes oblique, in length equal to or a little shorter than the diameter of the perithecia; asci cylindrical; spores uniseriate, simple, oblong-elliptical, uninucleate, colorless, .0005′–.00055′ long, .0002′ broad.

Much decayed wood. Catskill Mountains. Sept.

This species, by reason of its somewhat hairy perithecia, might be sought among the Villosæ. The perithecia are sometimes deeply sunk in the soft matrix, and have only the ostiola exposed, again they are nearly or quite superficial.

SPHÆRIA LIVIDA *Fr.*

Dry hard hemlock knots. Catskill Mountains. July.

SPHÆRIA (CAULICOLÆ) HUMULINA *n. sp.*

Perithecia small, slightly prominent, covered by the blackened epidermis; ostiola minute, piercing the epidermis; asci cylindrical; spores uniseriate, elliptical, triseptate, colorless, .0006′ long, .0003′ broad.

Dead hop stems. Carlisle. June.

SPHÆRIA INFECTORIA *Fckl.*

Culms and sheaths of *Calamagrostis arenaria*. Buffalo. Oct. *Clinton.*

SPHÆRELLA PECKII *Spegaz.*

Fallen leaves of *Amelanchier Canadensis*. Center. May.

SPHÆRELLA SEPTORIOIDES *n. sp.*

Spots few, orbicular, angular or irregular, white; perithecia numerous minute, hypophyllous, black; asci oblong; spores crowded, uniseptate, colorless, .0005′ long, the two cells nearly equal.

Living leaves of *Thalictrum dioicum*. Central Bridge. June.

The spots are very white, and so thin that the perithecia show through the tissues of the leaf. The external resemblance to species of Septoria suggests the specific name.

(5.)

REMARKS AND OBSERVATIONS.

VIOLA BLANDA *Willd.*

A noticeable form of this violet occurs about Albany. It has the calyx peduncles and petioles tinged with dull red, the flowers rather large, the petals scarcely greenish at the base, and the fragrance wanting. The leaves are sometimes rather coarsely hairy.

VIOLA MUHLENBERGII *Torr.*

A dwarf form of this species was found in South Corinth, flowering freely the latter part of August.

SEDUM TELEPHIOIDES *Mx.*

This plant which is rare in our State, is reported by *Hon. D. F. Day*, to be growing at Chittenango Falls, high up on the face of the cliffs.

ASTER MACROPHYLLUS *L.*

A form occurs near Albany with purplish stems, broadly ovate cauline leaves and flowers with six to ten rays only.

ASTER NOVÆ-ANGLIÆ *L.* var. ROSEUS *T. & G.*

Buffalo. *Clinton.*

ASTER ERICOIDES *L.* var. VILLOSUS *T. & G.*

Buffalo. *Clinton.*

HIERACIUM AURANTIACUM *L.*

This plant is already fully established in several localities in our State, and is rapidly spreading. I have seen it in abundance in Rensselaer, Schoharie and Montgomery Counties, and it is reported by *Mr. S. W. Cowles* as fully established in Cortland County. It spreads both by seed and by runners. It thrives in hard gravelly soils, by roadsides, in pastures and in meadows, and bids fair to rival the daisy as a noxious weed. It forms a dense carpet of hairy leaves closely pressed to the surface of the ground, and sends up its flowering stems a foot or more high. These bear at their summit a cluster of beautiful orange-colored flowers, which give a very showy appearance to the fields they occupy. The growth of the plant is very rapid. One field that had been plowed in the spring was red with the blossoms of this weed the middle of June. Meadows containing it, after having been mowed, quickly send up a second crop of flowering stems. It is pronounced by farmers to be worthless as fodder, and it is doubtful if it can be kept down except by thorough cultivation of the soil.

SHEPHERDIA CANADENSIS *Nutt.*

Rocky places near Central Bridge and Sprakers.

CHENOPODIUM ALBUM *L.*

This species at present is made to include a variety of forms, some of which do not well harmonize either in general aspect or in details of character. A common form about Albany has wide-spreading branches, broad leaves with numerous teeth, usually five to ten on each side, large dense clusters of fruit, usually intermingled with leaves but sometimes becoming leafless, and seeds very large, fully equal in diameter to the seeds of *C. hybridum*. This form differs so widely, in its whole aspect and in all the characters mentioned, from the ordinary narrow-leaved form, *C. viride*, that unless they are clearly connected by intermediate forms it would seem better that they should be kept distinct.

PINUS MITIS *Mx.*

Specimens of this pine and of the scrub-pine, *Pinus inops*, have been received from *Mr. N. L. Britton*, who found them growing on Staten Island. This makes six species of pine known to belong to the State. Unfortunately neither of the specimens was accompanied by flowers or cones, from which I infer that they do not fruit, and that the existence of these two species within our limits will not be long continued. *P. inops* is also said to occur on Long Island, but I have seen no specimens from that locality.

JUNCUS CANADENSIS *Gay*, VAR. SUBCAUDATUS *Engelm.*

Ditches along the railroad. South Corinth. Aug.

The weak stems and spreading panicles give this variety an appearance quite unlike that of the more common one, VAR. *COARCTATUS*.

TRISETUM MOLLE *Kunth.*

Cliffs near Central Bridge. June.

ASPIDIUM SPINULOSUM *Swartz.*

Fertile specimens of the dwarf form known as VAR. *dumetorum* were found on the Catskill Mountains. They are glandular-hairy and therefore should be referred to the recently-proposed species, *A. Americanum* Dav. The typical *A. spinulosum*, as limited by *Mr. Davenport*, occurs on the Adirondack Mountains.

BOTRYCHIUM TERNATUM *Swartz*, VAR. OBLIQUUM *Eaton.*

The dwarf form of this variety with the sterile frond about one inch broad and long and the whole plant three or four inches high was found at South Corinth.

BOTRYCHIUM SIMPLEX *Hitch*, VAR. SUBCOMPOSITUM *Lasch.*

Lewis's Bluff near Oswego. *Rev. H. Wibbe.*

BRYUM ELONGATUM *Dicks.*

This rare moss occurs on Slide Mountain, one of the highest peaks of the Catskills.

AGARICUS CÆSAREUS *Scop.*

This species was found at Ganseyoort growing in a circle about forty feet in diameter. About one-fourth of the circumference of the circle was unoccupied by the fungus in consequence of the encroachment of a cleared field. In the American form of the species the stem is rather slender and equal or slightly tapering upward. I have not seen it "subventricose" as required by the description.

AGARICUS AMERICANUS *Pk.*

This Agaric usually grows in grassy places or on lawns, but fine specimens were found the past season growing in a large tuft on an old stump. The lamellæ are much narrowed behind and somewhat reticulately connected. In the fresh state the whole plant is white with the exception of the scales of the pileus.

AGARICUS HORDUS *Fr.*

Although the specimens formerly referred to this species agree in most respects with the description there are certain discrepancies, which upon further investigation induce me to believe it to be a distinct species. I would, therefore, give it the following name and description:

AGARICUS (TRICHOLOMA) PRÆPOLIATUS *n. sp.*

Pileus thin, slightly convex or expanded, a little moist in wet weather, virgate with innate brownish fibrils, dark-cinereous or grayish-brown, usually a little darker on the disk, the margin sometimes revolute; lamellæ very broad, subdistant, rounded behind, sometimes united at the point of attachment, venose-connected and somewhat transversely striate, often split transversely, the edge uneven or eroded, white; stem equal, firm, fibrous, fibrillose-striate or rimose, stuffed or hollow, white or whitish; spores broadly elliptical, generally uninucleate, .00025′–.00035′ long; flesh white, odor pleasant, anise-like.

Plant 4′–6 high, pileus 3′–5′ broad, stem 5′–10′ thick.

Ground and decaying hemlock wood in woods and groves. June and Aug.

The pileus is often irregular and sometimes eccentric. The lamellæ are very broad, sometimes a half an inch or more, and usually much torn. The plant is scattered in its mode of growth, but few individuals occurring in a place. The obscure striations of the lamellæ are retained in the dried specimens.

AGARICUS CORTICOLA *Schum.*

This plant revives on the application of moisture, thus indicating an affinity with species of Marasmius.

AGARICUS CALLISTUS *Pk.*

This beautiful Agaric grows on decaying wood in damp places as well as in exsiccated water-holes.

CORTINARIUS CORRUGATUS *Pk.*

In woods. Gansevoort and Sandlake. Aug.

The color of the pileus varies from yellow to reddish-yellow or ochraceous, the lamellæ are sometimes minutely transversely venose, and the stem is slightly fibrillose, and sometimes sprinkled above with yellowish grains or squamules.

PAXILLUS POROSUS *Berk.*

Fine specimens were found at Brewerton, growing on the ground in woods and on mounds of earth. The plant emits an unpleasant earthy odor. I have not found the pileus viscid, and conclude that the part of the description "viscid when moist" is a mistake. This species is easily known by its porous hymenium, which connects it with the genus Boletus. *Paxillus flavidus* Berk. is probably not distinct from *Gomphidius rhodoxanthus* Schw., which occurs within our limits. The species is ambiguous between Paxillus and Gomphidius, but from the character of its spores it seems nearer the

latter genus to which I have referred it. Our New York species of Paxillus may be tabulated thus:

Stem central:	
Pileus glabrous or only the margin tomentose	P. involutus *Batsch.*
Pileus hairy, less than two inches broad	P. strigosus *Pk.*
Stem eccentric or lateral:	
Velvety-tomentose, hymenium lamellated	P. atrotomentosus *Batsch.*
Glabrous, reticulated, hymenium porous	P. porosus *Berk.*
Stem none	P. panuoides *Fr.*

LACTARIUS INDIGO *Schw.*

This Lactarius appeared in considerable abundance in August, both in Sandlake and in Ganseyoort. The younger and fresh plants are generally highly colored and distinctly zonate, especially on the margin, but they fade with age, and generally lose their zonate character. The pileus when moist, is smooth, and subviscid to the touch, the stem is hollow and often spotted, and the spores are yellowish. Wounded places become greenish. It belongs to the section Dapetes, so named doubtless because of the edible qualities of its species. The four New York species of this section are very similar in character, and differ but little except in color and place of growth. They may be tabulated as follows:

Lamellæ when young blue, milk blue	L. Indigo *Schw.*
Lamellæ when young orange, milk orange	L. deliciosus *L.*
Lamellæ when young purplish-red, milk dark red	L. subpurpureus *Pk.*
Lamellæ when young grayish-yellow, milk pale saffron	L. Chelidonium *Pk.*

The first and last species usually occur on dry soil under or near pine trees; the second and third prefer damp soil in and about swamps and among mosses.

LACTARIUS SORDIDUS *Pk.*

A notable variety occurs in Sandlake. It has a hairy pileus and a greenish stem. The hairs of the pileus are of a brownish-green color, and toward the margin they separate in tufts or squamules. The pileus, as well as the stem, is more highly colored than in the typical form. It may take the name var. *hirsutus.*

LACTARIUS AQUIFLUUS *Pk.*

The agreeable aromatic odor, which is present both in the fresh and in the dried plant, is similar to that of *L. glyciosmus.*

RUSSULA FŒTENS *Pers.*

The odor of this plant as it occurs with us is not usually fetid or unpleasant. It resembles the odor of cherry bark and might aptly be termed amygdaline. The lamellæ are rarely forked and frequently they are quite as equal as in species of the section Fragiles. In this respect it violates the characters of the section Heterophyllæ in which the species is placed. It is doubtless this form to which Dr. Curtis gave the name *Russula amygdalina.* But our plant is scarcely a distinct species, for it does occur with numerous short lamellæ intermingled with the longer ones, and the same peculiar odor has been attributed by one writer at least to the European *R. fœtens.*

BOLETUS SPECTABILIS *Pk.*

This rare species occurs near Indian Lake in Hamilton County. It was discovered in North Elba in 1869, since which time I had not met with it. It constitutes with *B. pictus* and *B. paluster* a natural group of allied species. When young the tomentum in all of them covers the whole pileus.

BOLETUS ALBUS *Pk.*

This is another Boletus of rare occurrence. When young the tubes are white, but they at length become yellow or ochraceous-yellow. The flesh is white and the plant when fresh emits a fetid odor.

BOLETUS SUBTOMENTOSUS *L.*

A form of this species occurs in which the coatse of the stem anastomose in such a way as to form large but rather obscure reticulations. Is it *B. lanatus* Rost.? Another form having the pileus and stem darker-colored than usual occurs on much decayed prostrate trunks of trees and about old stumps. The chinks of the pileus are sometimes whitish.

BOLETUS AFFINIS *Pk.*

A fine variety of this species was found at Gansevoort, in which the pileus was beautifully mottled by small yellowish spots. It merits the name var. *maculosus.*

BOLETUS MODESTUS *Pk.*

This rare species sometimes has the flesh of the pileus yellowish. The stem is minutely scurfy or furfuraceous.

POLYPORUS CÆRULEOPORUS *Pk.*

A form of this species was found at South Corinth, in which the whole plant was grayish-blue except the flesh which was white.

POLYPORUS RHIPIDIUM *Berk.*

There is a slight viscidity to the pores of this species. The pileus fades with age.

POLYPORUS SPUMEUS *Fr.*

A large form of this plant, with pilei sometimes six or eight inches across, occurred at Brewerton.

POLYPORUS BOREALIS *Fr.*

This sometimes occurs on hemlock stumps. It then differs from the form on spruce in having the pileus broader, wholly white and strigose-hairy or fibrous-hispid.

POLYPORUS VOLVATUS *Pk.*

The form recently published under the name *Polyporus obvolutus* Berk. & Cke. is not specifically distinct from this species, according to specimens received from Mr. Ellis.

CLAVARIA BOTRYTES *Pers.*

When old the branches both of this species and of *C. flava* become elongated, obtuse, very fragile and of a uniform color. The yellow tips of the latter and the red ones of the former species wholly disappear.

MYROTHECIUM FUNGICOLA *Pk.*

This species has recently been referred to *M. inundatum* Tode. The spores in that species are represented in *Sturm's Dutchland Flora* as globose. In our plant they are oblong or cylindrical, a difference which seems to me to be of specific value.

PERONOSPORA VITICOLA *B. & C.*

Leaves of wild grape-vines. Catskill Mountains. A Peronospora whi is scarcely distinguishable from this species occurs about Albany on leaves the great ragweed, *Ambrosia trifida*.

MORCHELLA SEMILIBERA *DC.*

Mr Warne finds two forms of this species at Oneida, one with the pile conical, the other with it hemispherical and obtuse. In both the stem may either short or long. The pileus is often free nearly or quite to the apex.

GYROMITRA ESCULENTA *Fr.* (*Helcella esculenta.*)

This plant sometimes grows so large that a single one will weigh a pound

HELVELLA ELASTICA *Bull.*

This species is described as having the pileus free. It is not uncommon find it with the pileus attached in one or two points to the stem.

VERPA DIGITALIFORMIS *Pers.*

Buffalo. *Clinton.*

HELOTIUM PILEATUM *Pk.*

Decaying stems lying in water. Sandlake. May.

This is a large form about an inch high, with a conical or subcampanula pileus 2'-3" broad.

VALSA OXYSPORA *Pk.*

The habitat of this species was, by an error, stated to be dead oak branch It is dead branches of mountain holly, *Nemopanthes Canadensis*. I ha not found it on oak. It is very distinct from *V. taleola*, if the publish characters of that species are at all reliable.

(6.)

NEW YORK SPECIES OF LYCOPERDON.

LYCOPERDON *Tourn.*

Peridium membranaceous, vanishing above or becoming flaccid; b adnate, subpersistent, breaking up into scales or warts; capillitium soft, den adnate to the peridium and sterile base. *Syst. Myc., Berk. Outl., Coo Handbook.*

The species of Lycoperdon are commonly known as "Puff-balls." Th belong to a family of fungi called Gasteromycetes, because of their habit producing their spores in the inner cavity of the plant. The particular ord to which they belong is called Trichogasters, a name having reference to t hair-like filaments with which the interior of the mature plant is fill These filaments form a somewhat elastic mass, and are interspersed with v numbers of minute dust-like spores. When, therefore, the mature plant

suddenly compressed, it emits a little cloud of spores which bears some resemblance to a puff of smoke. This probably suggested the name "Puff-balls."

There are two other closely related genera in this order, whose species emit the characteristic puff of spores. One is called Bovista, the other Scleroderma. In the former, the outer rind or epidermis disappears as the plant matures, and there is no distinct spongy or cellular mass of sterile tissue at the base of the plant. In the latter, the walls of the plant are thick and firm when young, and they remain in nearly the same condition when mature. In these respects both genera differ from the genus Lycoperdon. In it the fertile part of the plant is more or less globose in shape, but there is always a mass of coarse empty cells at the base, which constitute a sterile part of the plant—that is, they produce no spores. In those species which have this part highly developed, it constitutes a sort of stem to the fertile part, and raises it above the earth or the matrix on which the plant grows. When the sterile base is but slightly developed, the plant appears to sit directly on the ground or matrix, and is then said to be *sessile*. The exterior of the plant consists of two parts. The outer part is sometimes called the *bark*, sometimes the *exterior peridium*. In some species it takes the form of minute flocculent or pulverulent masses of scurf-like scales, in others it consists of weak spines or spine-like bristles, while in others still the spines are much longer and stouter, being thickened at the base. Plants with these coarse long spines are said to be *echinate*, because of their stiff bristly aspect. Sometimes several contiguous spines have their tips curved toward each other and united together, thus forming little stellate or star-like clusters. These external processes or adornments are often called *warts*. In some species they are deciduous at maturity, in others they form a permanent adornment of the inner rind or true *peridium*, but in such cases they usually shrivel with age and become less conspicuous. In a few species, the exterior peridium, at maturity, is separable from the inner, and may be peeled off like a thin membrane. The inner or true peridium is at first rather thick and firm, but when fully mature it is generally thin, membranaceous and flaccid. In one series of species, the upper part, when mature, breaks up into irregular fragments and soon falls away; in another series it bursts by a small apical aperture, and then remains in this condition a long time. This difference in the peridia of the various species affords a character by which the genus is divided into two sections. The first section was designated by Fries as *Boristoides*, the other as *Proteoides*. The former was raised by Rostkovius to the rank of a genus with the name Langermannia, but modern mycologists have generally followed Fries in regarding these species as a section or subgenus of Lycoperdon.

The peridium incloses at first a soft fleshy mass of white cellular matter. If a minute portion of this be examined microscopically, a great number of short jointed filaments and enlarged cells or basidia are seen, the latter of which bear slender spicules, usually four apiece, on the tips of which the spores are borne. When the plant is fully developed, this central fleshy substance becomes filled with moisture and quickly changes its color. So abundant is the moisture that it may be pressed out like water from a wet cloth or sponge. The inexperienced collector is sometimes surprised at finding the moisture in the specimens which he has laid up to dry increasing instead of diminishing, and his surprise is soon changed to disappointment and perhaps annoyance, when he sees his beautiful specimens water-soaked and discolored by this superabundance of moisture. In most species the white color of the flesh at first changes to a yellow or greenish-yellow, but this hue soon becomes darker until at last it is either a purple-brown or a dingy-olive; that is, brown more

or less tinged with dark-red, or brown tinged with yellow or greenish-yellow. In a few species the final color is less decided, approaching a dark-umber or snuff-brown. Sometimes the outer stratum, lying next to and in contact with the inner surface of the peridium, is paler than the rest of the mass. With this change in the color of the interior mass there is also a change no less wonderful in its character. It is now no longer moist and fleshy, but dry and dusty. The whole interior is filled with a soft but elastic mass of intricate slender, cottony filaments interspersed with countless multitudes of minute dust-like spores. This mass of threads is called the *capillitium*. In some species it is of nearly uniform density throughout, but in others those filaments that spring from the base do not so freely unite and intermingle with those that spring from the walls of the peridium. They, therefore, form a central mass more or less distinct from the rest, and are called the *columella*. The columella is usually of a somewhat conical shape, but sometimes it is nearly globose. It may be detected in the mature plant by carefully making two opposite slits in the peridium, extending them from the apex nearly or quite to the base, and then opening the two hemispheres thus formed, the uncut base acting as a hinge on which the halves may turn. The columella, if present, will be seen projecting from the base in the center of the cleft. The slits are best made with a pair of small, sharp scissors, as care should be taken not to disturb the natural position of the filaments more than is necessary. In the mass the capillitium and spores appear to be uniformly and similarly colored, but often if the filaments are cleared of the spores they are seen to be paler in color. Rarely they are darker. The color of the capillitium and spores might be used as a character for grouping our species in subsections. The spores in all our species are nearly or quite globose. They vary in size in the different species from .00016 to .00025 of an inch in diameter. The olive-tinted spores in nearly all the species are smooth and about .00016 of an inch in diameter, but the purple-tinted ones are always rough or echinulate and generally larger, varying from .0002 to .00025 of an inch broad. It is perhaps needless to say that the size of the spores does not at all depend on the size of the plant that produces them. The spores of the Giant puff-ball, the largest one of the genus, are but .00016 of an inch in diameter, while those of the little Smooth puff-ball, which is scarcely more than an inch in diameter, are about .00025 of an inch broad. The color of the spores may be ascertained by ejecting a small quantity of them on white paper or by opening the peridium and exposing them to view.

Puff-balls rarely make their appearance in the early part of the season. Old effete specimens of the preceding autumn may be found in early spring flattened and closely pressed to the ground by the snows of winter. Fresh specimens rarely appear before the middle of June. Their greatest abundance is in late summer and early autumn. During the months of August, September and October most of our species occur. One species I have found in July and August only, another in July only. Some species are invariably found in cleared lands, others in woods or bushy places, while a few are denizens of both field and forest. Some grow on the ground only, others on old logs and decaying wood, and a few on both the ground and decaying wood. One southern species is said to inhabit the bark of living oak trees. Some species have distinct, whitish, root-like fibres at the base. These penetrate the earth, and sometimes creep through it for a considerable distance. In the Pear-shaped puff-ball they are generally well developed, and sometimes several individuals are found to be attached together by these creeping subterranean fibres.

In the determination of the species, it is desirable to have specimens in both the mature and the immature condition. The former will afford the

means of ascertaining the color and character of the capillitium and spores, the latter will exhibit the color of the immature plant, and the character of its warts or adornments. The character of these, and the characters of the capillitium and spores are of the first importance, but the color of the immature plant and its size and shape are less constant and reliable, and are therefore generally considered of secondary importance. Specimens preserved entire and in their natural shape are much more satisfactory for study than those that are sliced in sections or pressed flat and mounted on herbarium paper. Such specimens can easily be kept in trays or small paper boxes. The immature ones should be gathered just before maturity. If taken too early they shrivel too much, and do not keep their shape as well.

Puff-balls are useful because they are edible. None of the species are considered dangerous or even hurtful, yet some are so small and so scarce, that they are not of much value for food. The larger ones are generally better flavored than the smaller and more common ones. They should be used as food in the immature condition only, while the flesh is yet of a pure white color. When it begins to discolor its goodness is gone.

The method of preparing them for the table is as follows: Take off the rind and cut the fleshy part into thin slices. Beat up two or three or more eggs, according to the quantity to be prepared, and dip the slices in it. Then fry in butter, seasoning with salt, pepper and savory herbs if desired. Another method is to put the slices in water and heat to the boiling point. Then take them out and fry in butter as before. Puff-balls, as an article of food, have this advantage over mushrooms. They are not often infested by insects or their larvæ, and there is scarcely any possibility of mistaking any deleterious species for them. In the following descriptions, those species whose esculent qualities have been tested by the writer are marked edible.

The Synoptical table is intended to be an aid to the student in tracing the species. Nearly all the characters employed in it are ascertainable without the aid of the microscope.

SYNOPTICAL TABLE OF SPECIES.

SECTION 1. *Peridium Rupturing Irregularly.*

Plant very large, spores dingy-olive.	L. giganteum.
Plant large, spores purple-brown.	L. cyathiforme.
Plant medium size, stem long, spores dingy-brown	L. saccatum.

SECTION II. *Peridium Opening by a Small Apical Aperture.*

Mature capillitium and spores purplish-tinted	a.
Mature capillitium and spores olive-tinted.....	b.
a Denuded peridium reticulate with brown lines..	L. constellatum.
a Denuded peridium smooth	L. atropurpureum.
a Peridium not denuded, warts minute, persistent	L. glabellum.
b Plant shaggy or echinate with spinose or pyramidal warts,	c
b Plant not shaggy, warts minute or papilla-like.	e.
c Plant sessile, growing in cleared land	L. Wrightii.
c Plant subsessile, growing in wood or bushy places....	d.
d Denuded peridium pitted, spores pedicellate.	L. pedicellatum.
d Denuded peridium smooth, spores not pedicellate.	L. echinatum.
e Plant generally with a stem-like base	f.
e Plant without a stem-like base, sessile.....	g.
f Denuded peridium pitted and reticulate with dotted lines,	L. gemmatum.
f Denuded peridium not pitted	L. molle.
f Peridium scarcely denuded, warts minute, equal	L. pyriforme.
g Plant pinkish-brown, growing in woods.....	L. subincarnatum.
g Plant whitish, growing in cleared land.	L. pusillum.
g Plant yellowish, growing in woods.	L. coloratum.
g Plant whitish, ovate or conical	L. calyptriforme.

SECTION I. *Bovistoides. Peridium rupturing irregularly, the upper pa falling away in fragments. Columella none.*

In the species of this section the peridium is apt to crack in areas, and a maturity it breaks up in irregular fragments and falls away. The capillitiu and spores are also soon dispersed, so that there remains only the sterile ba which is sometimes margined by the lacerated, but more permanent bas part of the peridium. In this case the remains are somewhat cup-shaped The bark or warts are usually of a soft floccose character, but sometimes n conspicuously developed.

LYCOPERDON GIGANTEUM *Batsch.* GIANT PUFF-BALL.

Very large, 10–20 in diameter, obconic or depressed-globose, nearly s quite sessile, white or whitish, becoming discolored by age, smooth or slightl roughened by weak spinose or minute floccose warts, sometimes cracking i areas; capillitium and spores yellowish green to dingy-olive; spores smooth .00016 in diameter. Edible.

Ground in fields, pastures and grassy places. Buffalo, *Clinton*. Oneida *Warne*. North Galway, *Taft*. Rensselaerville, *Doolittle*. Catskill Moun tains, *Paine*. Late summer and autumn.

This is the largest puff-ball known in this country, and is therefore very appro priately named the Giant puff-ball. The species, according to Fries, has als received other names, such as *L. maximum* Schoff, the largest puff-ball; *L. Bovista* L., the Bovista-like puff-ball; *L. vulgare* Vaill, the Common puf ball, and *L. proteus* Sow., the Protean puff-ball. Its dimensions are usuall within the limits given in the description, but sometimes it grows muc larger. Its great size frequently brings it into notice, and makes it the sub ject of short newspaper articles. The following have recently fallen unde the observation of the writer, and are introduced here because they indicat the size sometimes attained by this puff-ball: "In a low moist portion o the Gordon Park there grew this fall one of the largest puff-balls (*Lycoperdo giganteum*) ever seen. It measured a little over eight feet in circumferenc and weighed forty-seven pounds. It looked at a distance like some larg boulder. * * A specimen of the above dimensions would be a meal fo a good large family. In fact, I think it sufficient to appease the appetites o some of the largest European fungus clubs."—*Country Gentleman*. "There was an enormous puff-ball in a bank near the house of the writer this sum mer. It was eighteen and a half inches in its greatest diameter, and four fee four inches in circumference. These puff-balls have come up in the same place for many years past, and always of a large size, but never before s large as the above."—*Greville*. "Among noteworthy specimens seen a the recent Edinburgh Fungus Show, was * * a puff-ball (*Lycoperdo giganteum*) fifty-four inches in circumference and weighing twenty pounds." —*Botanical Gazette*. Schweinitz affirms that he found in a certain meadow specimens of this puff-ball three feet in diameter. The largest New York specimen that I have seen is the one contributed by Mr. Warne. It measure fifteen inches in diameter in its dried state. It was considerably larger in its fresh state. The specimen from Rensselaerville is fourteen inches in diameter in the dried state. One writer advises that when one of these large puff-balls occurs at a convenient distance from the house, it should not be removed from its place of growth, but that a sufficient quantity be cut from it for a meal. The next day it may be visited again and enough more be taken for another meal. In this way it may supply a small family for a week; but if all were taken up and carried to the house at once, some of it

would spoil before it could be used. It is said that when the growing plant is cut or wounded, the wounds heal or fill up with new tissue. Cordier states that the old flesh of this puff-ball is sometimes used for amadou, and that the spores are mixed with milk by the Finns, to make a medicine for calves afflicted with diarrhœa. They are also used, he says, in making various shades of brown paint. The capillitium and spores of this and other species are also said to have been used in staunching blood, and their fumes as an anæsthetic. Fries says that there are two forms of this species, one obconic, and the other larger and globose. All the specimens that I have seen were depressed-globose, their vertical diameter being less than the horizontal. As one correspondent expresses it, they were very much like a large round loaf of bread in shape and in color. In all our specimens the sterile base is very small in proportion to the size of the plant, so that, in the growing state the plant must have appeared quite sessile. Probably the smaller obconic form has a more distinct base. According to Fries, the species is so variable in size, shape, color and the character of the surface, that from these alone it is difficult to distinguish it There is, however, no New York species at present known to me with which it is likely to be confused, if the characters of the mature peridium, and the color of the capillitium and spores are observed.

LYCOPERDON CYATHIFORME *Bosc.* CUP-SHAPED PUFF-BALL.

Large, 3′–10′ in diameter, nearly globose, generally furnished with a short more or less thick stem-like base, whitish cinereous or pinkish-brown, smooth or minutely floccose, sometimes with minute scattered spinules or floccose scales, generally cracking in areas, the upper part at length falling away in fragments and leaving a cup-shaped base with a lacerated margin; capillitium and spores purple-brown; spores rough .0002′-.00025′ in diameter. Edible.

Ground in fields and pastures. Buffalo, *Clinton*. Oneida, *Warne*. Utica, *Johnson*. Fort Edward, *Howe*. Albany, Sandlake, Maryland and South Corinth. Autumn.

Bosc's figure and description of this species, for a transcript of which I am indebted to the kindness of Prof. Farlow, are not very satisfactory. They were evidently derived from the basal remains of the effete plant, a mode of describing fungi which is scarcely to be recommended. But in this case it happens that there is no other known American puff-ball than the one here described to which, in the effete condition, his description is applicable, so that there is very little doubt as to the species he intended to describe. A translation of his description is here given.

"Sessile, conical, concave at the top, the margin thin and lacerated.

"This species, which occurs in very dry and open places in South Carolina, appears to have some resemblance to *L. infundibulum* Willd. Its color is a grayish-violet, more distinct in the cavity. I have never seen it open naturally to disseminate its seeds. Insects which perforate it, the feet of quadrupeds which crush it, winds which blow it against trees supply this want."

The use of the word sessile in this description is very natural, if we should suppose as Bosc evidently did, that the sterile base was the only and normal condition of the plant. "Conical" would probably have been more accurate, if it had been written "obconical" or "inversely conical." This species, according to Dr. Berkeley, is apparently the same as *L. fragile* Vitt. It is also the *L. albopurpureum* of Frost's List of Fungi in the Catalogue of

Plants growing near Amherst College. It is the *Bovista cyathiformis* of the Twenty-second State Cabinet Report, and an immature condition of it was reported and figured in the Twenty-third State Cabinet Report under the name *L. giganteum*.

As an edible species, it is not inferior to the giant puff-ball. It is equal to it in flavor and occurs more frequently and in greater numbers. The smaller plants are about the size of a man's fist, the larger ones are as big as a man's head. The short thick stem often penetrates the earth so that the plant appears to be truly sessile. The color is generally brown more or less tinged with pink or lilac, but sometimes it is nearly white. Usually the upper part cracks into rather large distinct areas. Just at maturity there is a thin membrane or epidermis which may be separated from the peridium, which is then seen to have a beautiful but minutely velvety surface. It is at this time quite thick but very fragile. The cup-like base, which remains after the dispersion of the capillitium and spores, is suggestive of the specific name. It is more or less tinged with the purplish-brown hue of the capillitium and frequently persists till the following spring. Sometimes the persistent basal part of the peridium is expanded so that the cup is lost in a nearly plane surface. The color of the capillitium and spores readily separate it from the other species of this section.

LYCOPERDON SACCATUM *Fr.* LONG-STEMMED PUFF-BALL.

Medium size, 2′–4′ high, 1′–2′ broad; peridium depressed-globose or somewhat lentiform, supported by a long stem-like base, furfuraceous with minute persistent mealy or granular warts or spinules, often plicate beneath, white or creamy white, at maturity becoming brown or olive-brown, subshining and very thin or membranous, breaking up into irregular fragments which sometimes adhere to the capillitium for a considerable time, the stem-like base cylindrical or narrowed downward, sometimes thick; capillitium rather dense, subpersistent, and with the spores dingy-olive or dingy-brown, sometimes verging toward purplish-brown; spores rough, .00016′–0002′ in diameter. Edible.

Low mossy grounds and bushy swamps, especially under alders. Sandlake, Center and Adirondack Mountains. August—October.

The Long-stemmed puff-ball is one of our finest species. Its symmetrical shape, pure color, soft and delicate appearance, all conspire to render it attractive. The peridium is sometimes nearly globose, but usually it is more or less depressed and hemispherical or lens-shaped. It warts are soft and delicate, and so minute, that to the naked eye the plant appears to be mealy or almost pruinose. They are persistent, but in the mature plant they shrivel or dry up so that they are scarcely noticeable. In the mature plant the peridium shrinks to a thin delicate membrane, in which respect it differs from the peridium in the two preceding species. The under surface is sometimes marked by radiating alternate elevations and depressions, and in some instances the stem is also rendered uneven by shallow, undulate depressions. The stem sometimes persists long after the disappearance of the peridium and its contents.

Before maturity this species bears a strong resemblance to *L. molle* Pers. the Soft puff-ball, but when mature the two are easily separated by the different manner in which the peridium rupture.

SECTION II. *Proteoides. Peridium opening by a small apical aperture, persistent. Columella generally present.*

In this section the species are more numerous than in the preceding, and the plants are generally more abundant, but they do not attain such large dimensions. The peridium persists for a long time, and as its aperture is very small, its capillitium and spores are not so soon dispersed. In some of the species there are larger deciduous warts or spines interspersed among smaller and more persistent ones; in others, all are nearly equal and persistent; in a few, all are deciduous.

* *Spores purple-tinted, intermingled with short fragmentary slender filaments.*

LYCOPERDON CONSTELLATUM *Fr.* RETICULATE PUFF-BALL.

Peridium subglobose or obovate, sometimes depressed, 10″–18″ broad, echinate with rather long stout crowded brown spines which are either straight curved or stellately united and which at length fall off and leave the surface reticulate with brown lines; capillitium and spores brown or purplish-brown, columella present; spores rough, .0002′–.00025′ in diameter.

Ground in dense shades and groves. Oneida. *Warne.* Rare. Autumn.

I am not aware that this species has been found in any other locality in the State. I have seen the dried specimens only, but Mr. Warne informs me that the fresh plants do not differ essentially in color from the dried ones. These are of a cervine or dull-brown color, closely resembling the hue of the dead and fallen leaves among which they appear to have grown. They are about an inch across, and very rough or shaggy, with crowded stout spines. When these have fallen, the surface is reticulated by a network of minutely warted brown lines, a character by which the species is readily distinguished.

LYCOPERDON ATROPURPUREUM *Vitt.* PURPLE-SPORED PUFF-BALL.

Peridium globose depressed-globose or obovate, 6′–30′ broad, generally narrowed below into a short stem-like base, white cinerous or brownish, mealy-spinulose hairy-spinulose echinate or stellately echinate, when denuded smooth and subshining; capillitium and spores finally purplish-brown, columella present; spores rough, .0002′–.00025′ in diameter.

Sandy pastures, woods and bushy places. Common. August—October. Albany, Sandlake, Gansevoort, Brewerton, Catskill Mountains and Helderberg Mountains.

This appears to be one of the most polymorphous species we have. It is so variable that I have been obliged to modify the usual description very much, in order to include forms which are quite diverse, yet which appear to me to run together in such a way that I am unable to draw any satisfactory line of distinction between them. The following is the usual description of the Manuals:

"Peridium flaccid, dingy-rufous, opening by a minute obtuse mouth; bark at first rough, with minute spines; sterile base cellular, continuous with the capillitium; spores largish, pedicellate, brown-purple, echinulate."

I do not find the spores in our plant truly pedicellate; but in all the forms which I have referred to this species, as well as in all the species of this sub-

section and in European specimens of this species, I find them intermingled with short, fragmentary, slender filaments, which look very much as if they were podicels broken from the spores. I have not been able to find the spores attached terminally to them; but, in several instances, they appeared to be attached laterally. There also appears to be a minute point or apiculus on the spores, probably the point of attachment; but this is scarcely worthy of being called a pedicel.

There are three principal varieties which I have referred to this species. The first is usually one to two inches broad, sessile, or with a very short stem, nearly smooth, being mealy or pruinose, and having a few minute weak, scattered spinules or scales. Its color is generally whitish, or white slightly clouded with brown. It grows in sandy pastures and cleared lands, and is probably the nearest of the three in its resemblance to the type.

The second is turbinate or subglobose, and narrowed below into a distinct though short, stem-like base. It varies in diameter from half an inch to an inch and a half, and is thickly beset with slender bristle-like spinules which are often blackish, and give the plant a decidedly hairy aspect. The larger specimens have the spinules a little stouter, and sometimes stellately united. Such specimens connect this with the next variety.

The third variety varies from one to two and a half inches in diameter, and is generally furnished with a short stem-like base. Its spines are quite coarse, and often crowded and stellately united. They give it a decidedly rough or echinate appearance, so that at first sight it would be thought a distinct species; but the spines are easily deciduous, and individuals occur in which they are more scattered, and which have a mealy or pruinose surface, by which characters this variety appears plainly to run into the first. I regard the second and third as worthy of a name, and designate and define them as follows:

Var. *hirtellum*. Peridium hairy-spinulose with erect or curved sometimes stellately united spinules, which are often of a blackish color.

Ground and decaying vegetable matter in woods.

Var. *stellare*. Peridium echinate or stellately echinate with rather stout easily deciduous spines.

Ground in woods and bushy places.

In this species the capillitium and spores are at first greenish-yellow, olive-tinted or brownish; but when fully mature they are purple-tinted. Some care will, therefore, be necessary, lest the last variety be confused with the Echinate puff-ball, *L. echinatu* .. This variety was mentioned in the Twenty-second State Cabinet Report, under the name *L. calvescens* B. & C. The specimens were thus referred by one of the authors of that species; but when the description of the species was published, the reference was found to be erroneous. The larger, purple-tinted, rough spores forbid such a reference.

LYCOPERDON GLABELLUM *Pk.* SMOOTH PUFF-BALL.

Plant subglobose or subturbinate, 8′–18′ broad, sometimes narrowed below into a stem-like base, yellow or brownish-yellow, furfuraceous with minute nearly uniform persistent warts; capillitium and spores purplish-brown; columella present; spores rough, .0002′–.00025′ in diameter.

Ground in pine woods and bushy places. North Greenbush, Albany and Center. Autumn.

The Smooth puff-ball is not inferior in beauty to any of our species. Its pretty yellow color and soft, smooth appearance readily attract attention. It

is generally about one inch in diameter, and obovate, pyriform or subturbinate in shape. To the naked eye it appears to be smooth, or only mealy, or minutely papillose; but under a lense it is seen to be covered with minute, granular, or branny warts. These, in all the specimens that I have seen, are persistent. The character of the warts and the different color of the peridium enable this species to be easily distinguished from the preceding one, to the smaller and smoother forms of which it otherwise approaches.

** *Spores olive-tinted or brown.*

a. Plant shaggy or echinate.

LYCOPERDON WRIGHTII *B. & C.* WRIGHT'S PUFF-BALL.

Peridium globose depressed-globose or lentiform, 6″–24″ in diameter, generally sessile, white or whitish, echinate with deciduous sometimes crowded stellate spines or pyramidal warts, when denuded smooth or minutely velvety; capillitium and spores dingy-olive, columella present; spores smooth, .00016′ in deameter. Edible.

Ground in pastures and grassy places. Very common. July—October.

This is another very variable species. The typical form was a small one, minutely echinate and having the denuded peridium smooth. The plant often occurs much larger and more coarsely echinate with stout angular spines or pyramidal warts which fall off and generally leave the surface of the peridium velvety. This larger form was published in the Twenty-sixth Report of the N. Y. State Museum under the name *Lycoperdon separans*, but it is impossible to keep the two forms distinct. The larger ones sometimes have the denuded peridium smooth and there are other forms intermediate in the size and roughness of the peridium. I have therefore modified the specific description so as to include both forms.

Another puff-ball occurs which is probably a variety of this species but of which I have seen only immature specimens. It is of a purer white color and has the warts or spines tipped with black. For the present I have placed it with this species as a variety. It is probable that *L. calvescens* B. & C., is merely another form of this species differing simply in having a stem-like base. The following are the characters of the varieties noticed:

Var. *typicum*. Small, 6″–9″ broad, globose, minutely echinate, the warts quickly falling off and leaving the peridium smooth. (*L. Wrightii* B. & C.)

Var. *separans*. Larger, 10″–24″ broad, subglobose or lentiform, echinate with coarse substellate spines or pyramidal warts which at length fall off and leave the peridium smooth or velvety. (*L. separans* Pk.)

Var. *atropunctum*. Larger, 10′–15″ broad, subglobose, pure white, warts or coarse spines brown or blackish at the tips.

This species is generally gregarious, but sometimes it forms tufts of several individuals closely crowded together. It sometimes occurs in cultivated grounds and stubble fields. The under surface is occasionally plicate as in the Long-stemmed puff-ball. In the variety *separans* the warts or spines are crowded at their thickened bases and slightly attached to each other so that they come off at maturity in flakes or patches. When the denuded surface of the peridium is velvety it is usually of a darker color than when smooth, being subcinnamon, reddish-brown or dark-brown.

LYCOPERDON PEDICELLATUM *Pk.* PEDICEL-SPORED PUFF-BALL.

Peridium 10″–18″ in diameter, globose or depressed-globose, sessile or narrowed below into a stem-like base, whitish or cinereous, becoming dingy or smoky-brown with age, echinate with rather dense spines which are either straight curved or stellately united and which at length fall off and leave impressions or obscure reticulations on the surface; capillitium and spores greenish-yellow, then dingy-olive, columella present; spores smooth, pedicellate, .00016′–.00018′ in diameter, the pedicel three to five times as long.

Ground and decaying wood in woods and bushy places. Croghan, Center, Brewerton and Catskill Mountains. Autumn. Oneida, *Warne.*

The pedicellate spores constitute the peculiar feature of this species. It is one which suggests the name and which enables the species to be easily distinguished from all its allies. The spore is terminally and persistently attached to the pedicel, as in some species of Bovista. The plant is sometimes sessile, but usually it is narrowed below into a stem-like base. In the immature state it has a rough, shaggy appearance, but the spines shrivel with age so that it appears less rough when old. The pitted surface of the denuded peridium affords a mark of distinction from the next species. *L. pulcherrimum* B. & C. is evidently the same species, but the name here adopted has priority of publication.

LYCOPERDON ECHINATUM *Pers.* ECHINATE PUFF-BALL.

Peridium 10′′–18′′ broad, subglobose, generally narrowed below into a short stem-like base, whitish brownish or pinkish-brown, echinate above with rather stout spines, which at length fall off and leave the surface smooth; towards the base spinulose or furfuraceous; capillitium and spores dingy-olive; spores minutely rough, .00016′ in diameter.

Ground and decaying wood in woods. Albany, Forestburgh and Adirondack Mountains. August—October.

Fries, in the Systema Mycologicum, refers this species to *L. gemmatum* as a variety; but it seems to me to be worthy of specific distinction, both on account of the different character of its warts, its much more echinate appearance, and its smooth, denuded peridium. He also gives as synonyms *L. candidum* Pers., and *L. muricatum* Willd.

The whole plant is generally obovate, pyriform or turbinate, and the spines are larger and more or less curved at and near the apex, diminishing in size toward the base where they are more persistent. In the immature condition it is difficult to distinguish it from the preceding species; but when mature its smooth peridium and spores destitute of pedicels separate it. It grows chiefly in woods among fallen leaves, and on decaying vegetable matter.

b. Plant not shaggy.

LYCOPERDON GEMMATUM *Batsch.* STUDDED PUFF-BALL.

Peridium 10′′–18′′ in diameter, globose or depressed-globose, generally narrowed below into a stem-like base, scattered or cæspitose, subumbonate, whitish or cinereous, often tinged with yellow pinkish or brown, warts generally unequal, the larger mostly gemmate or papilla-like, pointed at the apex, scattered among smaller granular and more persistent ones, at length falling off and

leaving the surface areolate-dotted or reticulate with a network of fine dotted lines; capillitium and spores greenish-yellow, then dingy-olive or brown, columella present; spores smooth or very minutely rough, .00016′ in diameter. Edible, but not pleasant flavored.

Ground and decaying wood in woods and fields. Very common. July—October.

This is one of the most common and, at the same time, one of the most variable species. It is, therefore, more difficult to describe than to recognize after its peculiar appearance is familiar. The most available marks of distinction are the larger, erect, pointed warts or spinules, scattered among the minute ones, and giving the surface an appearance somewhat as if studded with gems, and, when these have fallen, the little smooth dots or impressions which they leave on the peridium. These are surrounded by the smaller and more persistent warts, which usually form fine reticulating dotted lines, and render the denuded peridium scabrous. In some instances, the warts on the upper part of the peridium are more crowded than usual, and nearly uniform in size; but when they fall they leave the usual smooth dots or impressions where they had stood. The denuded peridium is generally cinerous or grayish and opake. The stem varies very much in thickness and length. In some instances, it is almost or entirely wanting; in others, it is elongated nearly as much as in the Long-stemmed puff-ball. It is cylindrical or narrowed downwards, and it may be nearly equal to the peridium in diameter, or very much thinner. As in the preceding species, the larger warts generally occur on the upper part of the peridium and near the apex. When these are close and nearly uniform in size, they give the plant a coarsely papillose appearance, and if, at the same time, the stem is wanting, the plant becomes the variety called *papillatum*, or *L. papillatum* Schœff. Such forms occur both with and without the stem, and cannot easily be kept distinct from the ordinary forms. In the variety *hirtum*, or *L. hirtum* Mart., the larger warts are reduced to slender bristle-like spinules, which are often blackish in color; but they have an expanded base, and when they fall off they leave the usual dot-like impressions and reticulations. This form is rare with us. *L. excipuliforme* Pers., which is regarded by Fries as a variety of this species, either does not occur with us or else I have confused it with the ordinary forms of the species. It is characterized by its elongated stem with a subplicate base, and its scattered subspinulose warts. Sometimes the larger warts are blackish, or tipped with black, and occasionally they manifest a tendency to group themselves in a stellate manner. When the plant is cæspitose, it sometimes forms tufts of considerable extent. Such tufts, fully two feet in diameter, and containing scores of plants crowded together so compactly that their usual rounded form was lost, have fallen under my observation.

The following are the characters of the two varieties mentioned as they are given in Systema Mycologicum:

Var. hirtum. Turbinate, subsessile, hairy with soft slender warts which generally become blackish.

Var. papillatum. Subrotund, sessile, papillose, furfuraceous-pulverulent.

LYCOPERDON MOLLE *Pers.* SOFT PUFF-BALL.

Peridium 6″–16′′ broad, globose or depressed-globose, narrowed below into a stem-like base, furfuraceous with nearly uniform persistent minute weak spinules or granular warts, sometimes with a few larger papilliform ones

toward the apex, whitish, sometimes tinged with yellow, when mature brow ish or olive-brown, nearly smooth, subshining; capillitium and spores din olive, columella present; spores minutely rough, .00016′–.00018 in diamet

Among mosses, especially Polytrichum, in old meadows and pastur Albany, Summit and South Corinth. Autumn.

This puff-ball closely resembles the ordinary forms of the preceding spec in the size, shape and color of the immature plant, and by Fries was refer to it as a variety. There may be connecting forms, but if so, I have observed them, and for the present prefer to keep the two distinct. In t plant, the warts or spinules are very small and weak, so that it has a smoo ish, soft and delicate appearance, much like that of *L. saccatum*. They mostly persistent, but wither or shrivel with age, so that the mature peridi appears to the naked eye to be nearly smooth and somewhat glossy or shini In this respect it differs essentially from the Studded puff-ball. I have ne seen it with the dotted and reticulate surface of that species. From Long-stemmed puff-ball it is with difficulty separated in its immature sta but when mature, the different manner in which the peridium of the t species ruptures will at once distinguish them. From its habit of grow among mosses, the stem is often elongated, and is sometimes very slender proportion to the size of the peridium. In wet weather the peridium of t and the preceding species manifests a tendency to crack in areas.

LYCOPERDON PYRIFORME *Schæff.* PEAR-SHAPED PUFF-BALL.

Plant 6″–15″ broad, 10′–20′ high, generally cæspitose, obovate, pyrifo or turbinate, sessile or with a short stem-like base, radicating with white bran ing and creeping root-like fibres, subumbonate, covered with very minute s persistent nearly uniform warts or scales, often with a few slender scatte deciduous spinules intermingled, pallid dingy-whitish or brownish; capi tium and spores greenish-yellow, then dingy-olivaceous, columella prese spores smooth, .00016′ in diameter. Edible, but not well-flavored.

Decaying wood and ground both in woods and cleared lands Very co mon. July—October.

The Pear-shaped puff-ball sometimes approaches *L. gemmatum* in size a shape, but it is not easily mistaken for that species because of the differ character of its warts. They are very numerous, small, nearly uniform size, and appear to the naked eye like branny scales. They are often qu as distinct on the stem as on the peridium. They are quite persistent, sometimes fall from the upper part of the peridium, leaving it smooth a whitish or cinerous. The peridium frequently cracks in areas, especially wet weather. One form occurs with the peridium abruptly narrowed into small, but distinctly scaly stem; another is of a very pale color and alm smooth, the warts being scarcely visible to the naked eye. In mountain forests, patches of this puff-ball which are several feet in length frequent occur on old prostrate mossy trunks. Whole clusters of young plants m sometimes be obtained attached together by their creeping radicular fibre

LYCOPERDON SUBINCARNATUM *Pk.* PINKISH PUFF-BALL.

Peridium 6′–12″ broad, globose, rarely either depressed or obovate, g garious or cæspitose, sessile, with but little cellular tissue at the base, cover with minute nearly uniform pyramidal or subspinulose at length decidu

warts, pinkish-brown, the denuded peridium whitish or cinereous, minutely reticulate-pitted; capillitium and spores greenish-yellow, then dingy-olivaceous, columella present; spores minutely roughened, .00016–.00018′ in diameter.

Prostrate trunks, old stumps, etc., in woods. Common. August—October.

This is a very distinct species not likely to be confused with any other. Its peculiar color is quite constant, and this, with its minute, uniform warts, cæspitose habit, sessile character, and pitted, denuded peridium, easily distinguishes it from all allied species. It rarely exceeds an inch in diameter, and I have never found it growing on the ground, nor in cleared lands. It often has white, creeping, radicular fibres, similar to those of *L. pyriforme*, and it sometimes forms patches equal in extent to those of that species. The little pits or depressions in the denuded peridium are left by the deciduous warts. They are smaller and deeper than the similar impressions of *L. gemmatum*, and are not surrounded by dotted lines.

LYCOPERDON PUSILLUM *Fr.* LITTLE PUFF-BALL.

Peridium 3″–12″ broad, globose, scattered or cæspitose, sessile, radicating, with but little cellular tissue at the base, white or whitish, brownish when old, rimose-squamulose or slightly roughened with minute floccose or furfuraceous persistent warts; capillitium and spores greenish-yellow, then dingy-olivaceous; spores smooth, .00016′ in diameter.

Ground in grassy places and pastures. Common. June—October.

This puff-ball is generally about a half an inch in diameter; but specimens sometimes occur that are scarcely larger than a pea, and others that are fully an inch across. It grows in open ground, either on naked soil or among short grass, and is sometimes crowded together in tufts. Its surface is often cracked in areas which are sometimes quite minute, giving the surface a scaly appearance. Rarely the warts are in the form of minute, branny spinules or stellate hairs. They are generally persistent, but in the mature plant they are so shriveled that they are scarcely noticeable. It occurs throughout the season, sometimes appearing as early as June. Its smoother surface will readily distinguish it from small forms of *L. Wrightii* and *L. gemmatum*, var. *papillatum*.

LYCOPERDON COLORATUM *Pk.* COLORED PUFF-BALL.

Peridium 5″–10″ broad, globose or obovate, subsessile, radicating, yellow or reddish-yellow, brownish when old, slightly roughened with minute granular or furfuraceous persistent warts; capillitium and spores at first pale, inclining to sulphur-color, then dingy-olive; spores subglobose, smooth, about .00016′ in diameter.

Ground in thin woods and bushy places. Sandlake and Catskill Mountains. July and August.

This delicate little puff-ball is quite rare. It is generally about a half an inch broad and nearly globose, though sometimes it is narrowed toward the base, where it is usually furnished with a few delicate, white, radicular fibres. The color of the immature plant is yellowish and quite conspicuous; but when old it so closely resembles the dead, brown color of the fallen leaves among which the plant grows, that it is difficult to detect it. But few individuals

are found in one place. The warts are very minute, and easily overlook They have a granular or almost mealy appearance, and, when old, usu become blackish. At first the capillitium and spores appear to have a s phur-yellow color; but when fully mature, if the capillitium is cleared of spores, it is seen to be much darker. There appears to be a slight depres in one side of the spore, so that, when viewed in a particular direction appears flattened or depressed on one side, although viewed in a diffe direction it may appear globose.

LYCOPERDON CALYPTRIFORME *Berk.* CONICAL PUFF-BALL.

Peridium about 6″ high, 3′–4′′ broad, ovate or subconical, sessile, whit furfuraceous with minute warts or sipinules; capillitium and spores olivac or yellowish-olivaceous; spores smooth, .00016 in diameter.

Moss-covered rocks. Very rare. Adirondack Mountains. August.

I have met with this very small and rare species but once, and then two specimens were found. In these the apex was compressed or later flattened, instead of papilliform, as required by the original descriptio the species; but in all other respects they agree well with the specific cha ters. The plant is very distinct from all our other species by its small and ovate or conical shape.

In closing this report, grateful acknowledgments are rendered to those b anists whose names already appear in the preceding pages, for their kind co eration in the investigation of our flora, and for their generous contributions specimens.

When no name is added to the station or stations herein given, the plant been found therein by the writer. Dates signify the time when the specim were collected or the plants observed.

Respectfully submitted,

CHAS. H. PECK.

ALBANY, *January* 4, 1879.

EXPLANATION OF PLATE 1.

Ombrophila rubella *Quel.*

Fig. 1. Fragment of bark bearing the fungus.
Fig. 2. A plant and its matrix magnified.
Fig. 3. A branched filament bearing four clusters of spores magnified.
Fig. 4. Five spores, × 400.

Geoglossum vitellinum *Bres.*

Fig. 5. Five plants of various forms.
Fig. 6. Three asci; two containing spores and two united below.
Fig. 7. Four spores, × 400.

Pericoma albiceps *Pk.*

Fig. 8. Piece of a stem bearing the fungus.
Fig. 9. Two plants magnified.
Fig. 10. Filaments of the head; two of them bearing spores, × 400.
Fig. 11. Four spores, × 400.

Helotium fraternum *Pk*

Fig. 12. A petiole bearing four examples of the fungus.
Fig. 13. Two plants magnified.
Fig. 14. A paraphysis and an ascus containing spores, × 400.
Fig. 15. Three spores, × 400.

Acremonium flexuosum *Pk.*

Fig. 16. A piece of wool bearing the fungus.
Fig. 17. Branching filaments; one of them bearing two spores, × 400.
Fig. 18. Three spores, × 400.

Morchella angusticeps *Pk.*

Fig. 19. A plant of medium size.
Fig. 20. Two undeveloped asci; one containing crowded nuclei, × 400.
Fig. 21. An ascus containing spores, × 400.

EXPLANATION OF PLATE 2.

Peziza leucobasis *Pk.*

Fig. 1. A piece of wood bearing the fungus.
Fig. 2. A plant magnified.
Fig. 3. A paraphysis and an ascus containing spores, × 400.

Peziza orbicularis *Pk.*

Fig. 4. A plant and its matrix.
Fig. 5. A paraphysis and an ascus containing spores, × 400.
Fig. 6. Three spores, × 400.

Gorgoniceps turbinata *Sacc.*

Fig. 7. Piece of a branch bearing the fungus.
Fig. 8. A plant magnified.
Fig. 9. A paraphysis and an ascus containing spores, × 400.
Fig. 9′. A spore, × 400.

Glomerularia Corni *Pk.*

Fig. 10. A leaf spotted by the fungus.
Fig. 11. Short branching flocci, × 400.
Fig. 12. Flocci and spores, × 400.
Fig. 13. A mass of adhering spores, × 400.
Fig. 14. A single spore, × 400.

Peziza longipila *Pk.*

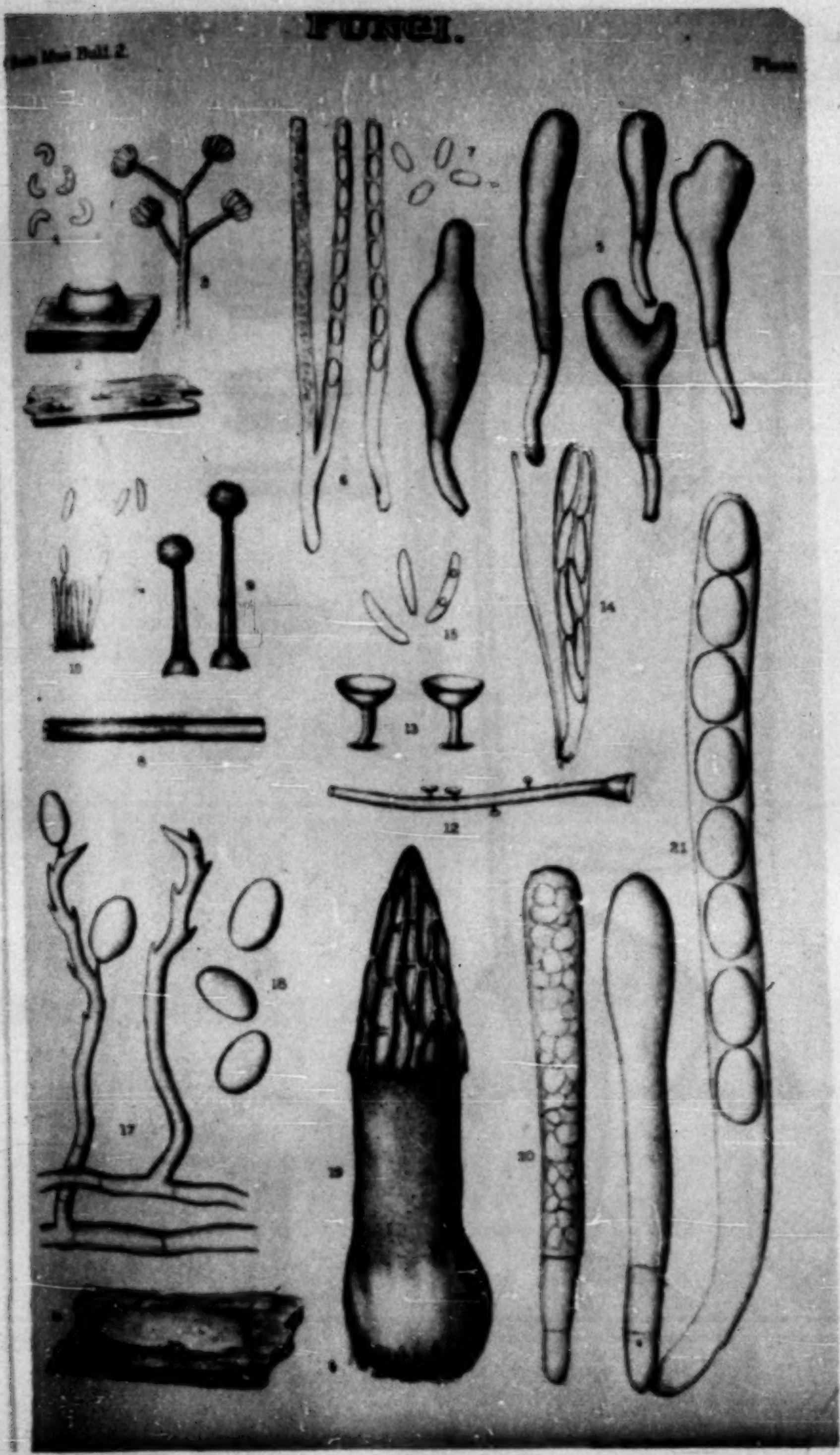
Fig. 15. Piece of a stem bearing the fungus.
Fig. 16. Two plants magnified.
Fig. 17. A hair from the cup, × 400.
Fig. 18. A paraphysis and two asci containing spores, × 400.
Fig. 19. Five spores, × 400.

Boletus rubinellus *Pk.*

Fig. 20. A plant of medium size.
Fig. 21 Vertical section of a pileus and upper part of the stem.
Fig. 22. Four spores, × 400.

Collybia hygrophoroides *Pk.*

Fig. 23. A young plant.
Fig. 24. An older plant with the pileus more expanded.
Fig. 25. Vertical section of a pileus and upper part of the stem.
Fig. 26. Five spores, × 400.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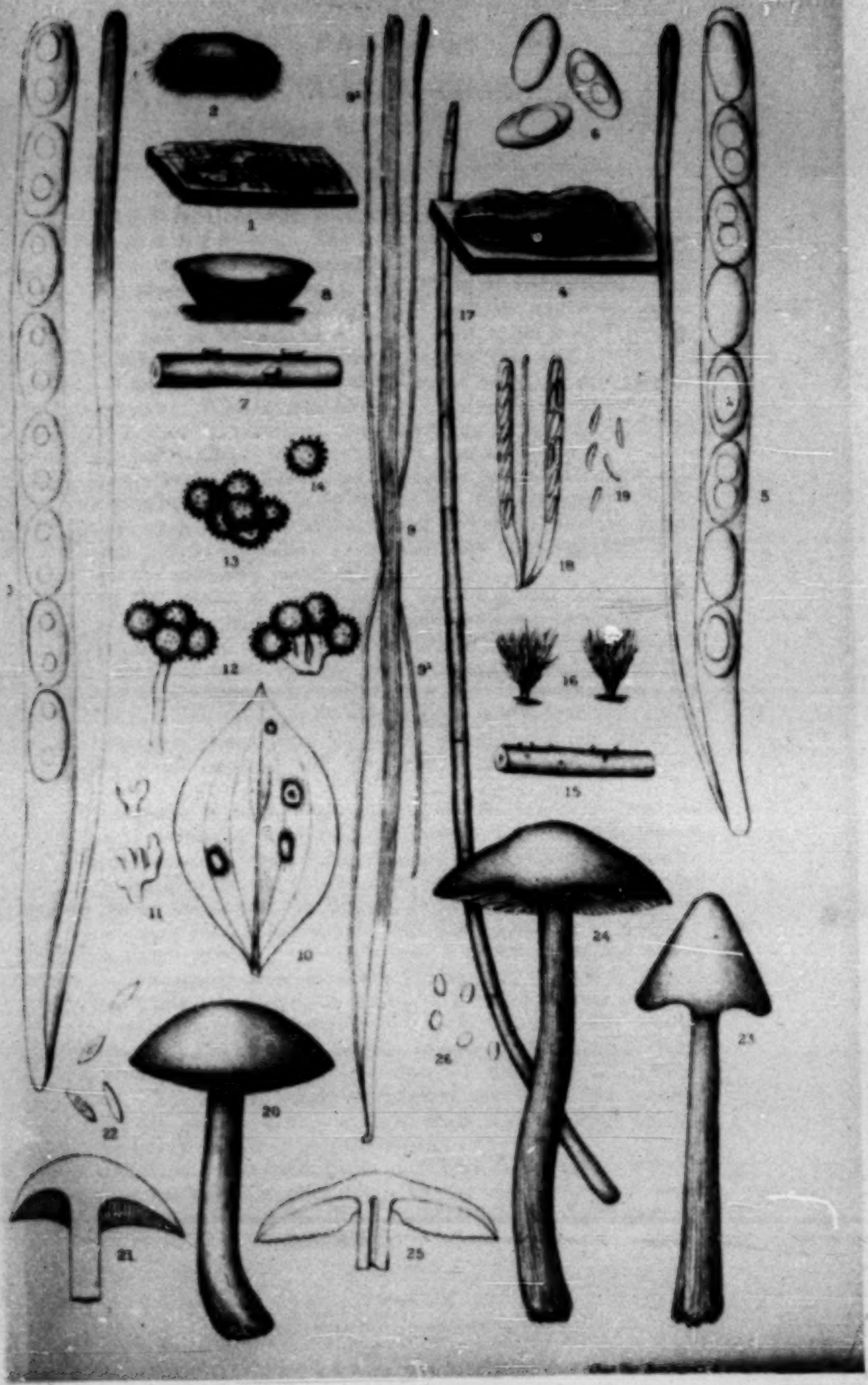

1879

REPORT OF THE BOTANIST. '79

S. B. WOOLWORTH, LL. D., *Secretary of the Board of Regents of the University:*

SIR — Since the date of my last report, specimens of one hundred and eighty-three species of plants have been mounted and placed in the herbarium of the State Museum of Natural History, none of which were before represented therein. A list of the specimens mounted is marked (1).

Specimens of plants have been collected in the counties of Albany, Dutchess, Oneida, Onondaga, Orange, Saratoga, Schenectady, Suffolk and Rensselaer. These represent one hundred and eighty-eight species, of which one hundred and fifty-one are new to the herbarium. Sixty-eight of these are believed to be new or hitherto undescribed species. A list of the specimens collected is marked (2).

Specimens of nineteen New York species, new to the herbarium and not represented by specimens collected by myself, have been contributed by correspondents. These, added to those collected, make the whole number of added species one hundred and seventy. There are, besides, a considerable number of extra-limital contributions. A list of the contributors and their contributions is marked (3).

Previously unreported species, including new species and their descriptions, are marked (4).

New stations of rare plants, remarks and observations are marked (5).

Among the Agarics, classified by botanists under the sub-generic name Amanita, are several species known to be deleterious when used as food. These are sometimes mistaken, by persons not possessing sufficient knowledge or ability to distinguish the species, for those that are harmless and truly edible, and serious accidents are the result. The published descriptions of the species are generally purely technical, and scarcely intelligible to any except botanists. It has, therefore, seemed desirable that a revision of the New York species of this group should be made, and the descriptions written in such a manner as to give special prominence to the principal distinctive characters, so that the species may be easily and readily recognized. The descriptions of all the species hitherto observed in our State have, therefore, been rewritten and supplemented by remarks upon their variations, their peculiar characteristics, and their distinguishing specific features. For the benefit of students of fungi, the synonyms have to some extent been given, and the spore characters of each species have been added. The qualities generally ascribed to the more common species are also noted. Of the others, they are not yet ascertained. The account of these Agarics is marked (6).

(L.)

PLANTS MOUNTED.

New to the Herbarium.

Glaucium luteum	*Scop.*
Alliaria officinale	*D. C.*
Hypericum adpressum	*Bart.*
Aster memoralis	*Ait.*
Plantago Rugelii	*Decaisne.*
Gentiana puberula	*Mz.*
Potamogeton crispus	*L.*
Listera australis	*Lindl.*
Chantransia violacea	*Kts.*
Zygnema insigne	*Hass.*
Glœotrichia Pisum	*Thuret*
Micromitrium Austinii	*Sull.*
Agaricus spretus	*Pk.*
A. impolitoides	*Pk.*
A. subhirtus	*Pk.*
A. alboides	*Pk.*
A. patuloides	*Pk.*
A. dealbatus	*Sow.*
A. odorus	*Bull*
A. anisarius	*Pk.*
A. leptolomus	*Pk.*
A. cremoraceus	*Pk.*
A. hygrophoroides	*Pk.*
A. lentinoides	*Pk.*
A. stratoides	*Pk.*
A. lutcopallens	*Pk.*
A. epichysium	*Pers.*
A. tomentosolus	*Pk.*
A. umbrosus	*Pers.*
A. dystheles	*Pk.*
A. muricatus	*Fr.*
A. trechisporus	*Berk.*
A. nodulosporus	*Pk.*
A. eutheloides	*Pk.*
A. infelix	*Pk.*
A. sapineus	*Fr.*
A. carbonarius	*Fr.*
A. aquatilis	*Fr.*
A. flavidus	*Schaff.*
A. Artemisæ	*Pass.*
A. modestus	*Pk.*
Cortinarius cærulescens	*Fr.*
C. crystallinus	*Fr.*
C. amarus	*Pk.*
C. opimus	*Fr.*
C. bivelus	*Fr.*
C. furfurellus	*Pk.*
C. armeniacus	*Fr.*
C. lodes	*B. & C.*
Hygrophorus lividoalbus	*Fr.*
Lactarius corrugis	*Pk.*
Russula nigricans	*Bull.*
R. delica	*Fr.*
R. compacta	*Frost.*
Russula olivascens	*Fr.*
R. flavida	*Frost.*
Marasmius archyropus	*Fr.*
Boletus punctipes	*Pk.*
B. rubinellus	*Pk.*
B. sensibilis	*Pk.*
B. Roxanæ	*Frost.*
Polyporus parvulus	*Kl.*
P. simillimus	*Pk.*
P. circinatus	*Fr.*
P. cuticularis	*Bull.*
P. chrysoloma	*Fr.*
P. molluscus	*Fr.*
Trametes Trogii	*Berk.*
Hydnum fuscoätrum	*Fr.*
H. cinnabarinum	*Schw.*
H. alutaceum	*Fr.*
Grandinia membranacea	*Pk.*
Craterellus Cantharellus	*Schw.*
C. clavatus	*Pers.*
Corticium polyporoideum	*B. & C.*
C. subrepandum	*B. & Cke.*
Clavaria fastigiata	*L.*
C. formosa	*Pers.*
C. corrugata	*Karst.*
C. flaccida	*Fr.*
Pterula divaricata	*Pk.*
Tremella subcarnosa	*Pk.*
Dacrymyces conglobatus	*Pk.*
Melanogaster variegatus	*Tul.*
Rhizopogon rubescens	*Tul.*
Cynophallus caninus	*Fr.*
Phallus Ravenelli	*B. & C.*
Clathrus cancellatus	*L.*
Geaster Capensis	*Thum*
Enerthenema papillata	*Pers.*
Cribraria vulgaris	*Schrad.*
Acrospermum album	*Pk.*
Sphæropsis Peckiana	*Thum.*
S. pulchrispora	*P. & C.*
S. typhina	*Pk.*
S. cornina	*Pk.*
Depazea Juglandina	*Fr.*
Septoria Albaniensis	*Thum.*
S. Canadensis	*Pk.*
Vermicularia compacta	*C. & E.*
Torula ramosa	*Pk.*
Septosporium volutinum	*C. & E.*
Puccinia Scirpi	*Lk.*
Synchytrium Anemones	*D. C.*
Protomyces conglomeratus	*Pk.*
Isaria fulvipes	*Pk.*
Tubercularia hirtissima	*Pk.*
T. subdiaphana	*Schw.*

Periconia albicepe..... *Pk.*
Helminthosporium obovatum, *Berk.*
Cladosporium compactum.... *B. & C.*
Heterosporium Ornithogali... *Kl.*
Fusicladium dendriticum..... *Wallr.*
Cercospora Rosecola..... *Pass.*
C. Apii..... *Fres.*
Peronospora Ficariæ..... *Tul.*
P. Corydalis..... *De By.*
P. gangliformis..... *Berk.*
Verticillium lateritium..... *Ehr.*
Polyactis cinerea..... *Berk.*
Penicillium bicolor..... *Fr.*
Speudylocladium tenellum.. *Pk.*
Oidium destruens..... *Pk.*
Ramularia effusa..... *Pk.*
R. variabilis..... *Fckl.*
R. albomaculata..... *Pk.*
R. angustata..... *Pk.*
R. Norvegicæ..... *Pk.*
R. Fragariæ..... *Pk.*
R. lineola..... *Pk.*
R. Plantaginis..... *Pk.*
Glomerularia Corni..... *Pk.*
Sporotrichum sulfureum..... *Grev.*
S. virescens..... *Lk.*
S. alutaceum..... *Schw.*
S. larvatum..... *Pk.*
Acremonium flexuosum..... *Pk.*
Sepedonium cervinum..... *Dittm.*
S. brunneum..... *Pk.*
Morchella angusticeps..... *Pk.*
Gyromitra curtipes..... *Fr.*
Geoglossum irregulare..... *Pk.*
Peziza euplecta..... *Cke.*
P. melastoma..... *Sow.*
P. apiculata..... *Cke.*
P. tetraonalis..... *Pk.*
Peziza humosoides..... *Pk.*
P. longipila..... *Pk.*
P. urticina..... *Pk.*
P. aurata..... *Fckl.*
P. melaleuca..... *Fr.*
P. Typhæ..... *Pk.*
P. Sphærella..... *P. & C.*
P. enterochroma..... *Pk.*
Helotium lutescens..... *Fr.*
H. fraternum..... *Pk.*
H. palustre..... *Pk.*
H. vibrissecides..... *Pk.*
Patellaria pusilla..... *Pk.*
Dermatea minuta..... *Pk.*
Bulgaria bicolor..... *Pk.*
B. deligata..... *Pk.*
Exoascus Pruni..... *Fckl.*
Taphrina aurea..... *Tul.*
Hypomyces luteovirens..... *Fr.*
Dothidea reticulata..... *Fr.*
Hypoxylon udum..... *Fr.*
Diatrype verrucoides..... *Pk.*
Valsa pulviniceps..... *Pk.*
V. Sorbi..... *Fr.*
Lophiostoma bicuspidata.... *Cke.*
Sphæria squamulata..... *Schw.*
S. subiculata..... *Schw.*
S. intricata..... *Pk.*
S. scopula..... *C. & P.*
S. albidostoma..... *Pk.*
S. clavariina..... *Pk.*
S. subdenudata..... *Pk.*
S. livida..... *Fr.*
S. humilina..... *Pk.*
S. infectoria..... *Fckl.*
Sphærella Peckii..... *Spegaz.*
S. septorioides..... *Pk.*

(2.)

PLANTS COLLECTED.

Not new to the Herbarium.

Thalictrum dioicum..... *L.*
Actæa alba..... *Bigel.*
Viola Selkirkii..... *Pursh.*
Hypericum mutilum..... *L.*
Linum striatum..... *Walt.*
Lespedeza reticulata..... *Pers.*
Ribes hirtellum..... *Mx.*
Proserpinaca palustris..... *L.*
Dipsacus sylvestris..... *Mill.*
Aster ericoides..... *L.*
A. dumosus..... *L.*
A. Tradescanti..... *L.*
Solidago altissima..... *L.*
S. gigantea..... *Ait.*
Polymnia Canadensis..... *L.*
Hieracium venosum..... *L.*
Gerardia tenuifolia..... *VaM.*
Lycopus Europæus..... *L.*
Monarda fistulosa..... *L.*
Lophanthus nepetoides..... *Benth.*
Polygonum Hartwrightii..... *Gr.*
Potamogeton natans..... *L.*
P. hybridus..... *Mx.*
P. gramineus..... *L.*
Triglochin palustre..... *L.*
Cyperus dentatus..... *Torr.*
Eleocharis olivacea..... *Torr.*
Carex tentaculata..... *Muhl.*
C. intumescens..... *Rudge*
C. polytrichoides..... *Muhl.*
C. tenera..... *Dew.*
Spartina alterniflora..... *Loisel.*
Eragrostis capillaris..... *Nees.*
Panicum proliferum..... *Lam.*

Hordeum vulgare..... *L.*
Equisetum arvense..... *L.*
Woodsia obtusa..... *Torr.*

New to the Herbarium.

Lecheа racemulosa..... *Mr.*
L. tenuifolia *A.* ..... *Mx.*
Rudbeckia triloba..... *L.*
Mentha rotundifolia..... *L.*
Salvia Sclarea..... *L.*
Potamogeton Robbinsii..... *Oakes.*
Spiranthes simplex..... *Gr.*
Glyceria obtusa..... *Trin.*
Muhlenbergia sobolifera..... *Trin.*
Cladonia Boryi..... *Tuckm.*
Vaucheria velutina..... *Ag.*
Agaricus solitarius..... *Bull.*
A. strobiliformis..... *Vitt.*
A. rhagadiosus..... *Fr.*
A. Frostianus..... *Pk.*
A. candicans..... *Pers.*
A. compressipes..... *Pk.*
A. vilescens..... *Pk.*
A. trullisatus..... *Ellis.*
A. confluens..... *Pers.*
A. Iris..... *Berk.*
A. bombycinus..... *Schaff.*
A. scabrinellus..... *Pk.*
A. curvipes..... *Fr.*
Cortinarius mutiformis..... *Fr.*
C. tophaceus..... *Fr.*
C. pulchrifolius..... *Pk.*
C. rubrocinereus..... *Pk.*
C. uiiginosus..... *Berk.*
C. sericipes..... *Pk.*
C. crococonus..... *Fr.*
C. basalis..... *Pk.*
Russula fragilis..... *Fr.*
Cantharellus brevipes..... *Pk.*
Panus lævis..... *B. & C.*
P. dealbatus..... *Berk.*
Boletus Frostii..... *Russell.*
Polyporus hispidioides..... *Pk.*
P. benzoinus..... *Wallr.*
P. chioneus..... *Fr.*
P. floccosus..... *Fr.*
Stereum neglectum..... *Pk.*
Cyphella caricina..... *Pk.*
Hymenula hysterioides..... *Pk.*
Clavaria pyxidata..... *Pers.*
C. miniata..... *Berk.*
Physarum mirabile..... *Pk.*
Cribraria argillacea..... *Pers.*
Phoma Herbarum..... *West.*
P. Phytolaccæ..... *B. & C.*
P. lineolatum..... *Desm.*
P. longipes..... *B. & C.*
Leptothrium punctiforme..... *B. & C.*
L. dryinum..... *Sacc.*
Hendersonia abnormalis..... *Pk.*
Sphæropsis celastrina..... *Pk.*
S. seriatus..... *Pk.*
S. cerasina..... *Pk.*
S. phomatella..... *Pk.*
Sphæropsis abundans..... *Pk.*
S. smilacina..... *Pk.*
Septoria pastinacina..... *Pk.*
S. hedericola..... *Pk.*
S. Gei..... *Desm.*
S. Ostryæ..... *Pk.*
S. lythrina..... *Pk.*
S. increscens..... *Pk.*
S. Ludwigiæ..... *Cke.*
S. Morі..... *Lev.*
S. Urticæ..... *Desm.*
S. Cornicola..... *Desm.*
S. atropurpurea..... *Pk.*
S. Aceris..... *B. & Br.*
Cytispora minuta..... *Thum.*
Gloeosporium Trifolii..... *Pk.*
G. Laportеæ..... *Pk.*
G. Hepaticæ..... *Pk.*
G. salicinum..... *Pk.*
Coryneum pustulatum..... *Pk.*
Asterosporium betulinum..... *Pk.*
Melanconium cerasinum..... *Pk.*
Torula uniformis..... *Pk.*
Synphragmidium effusum..... *Pk.*
Gymnosporium variabile..... *Pk.*
Puccinia Ellisiana..... *Thum.*
Protomyces fuscus..... *Pk.*
Melampsora Hartigii..... *Thum.*
Roestelia Ellisii..... *Pk.*
Cronartium asclepiadeum..... *Fr.*
Stilbum pruinosipes..... *Pk.*
Pericoma parasitica..... *Pk.*
Tuberculariа Celastri..... *Schw.*
Helminthosporium Pruni..... *B. & C.*
Macrosporium Melilоti..... *Pk.*
Alternaria Chartarum..... *Preuss.*
Helicosporium cinereum..... *Pk.*
Polyactis Streptothrix..... *C. & E.*
Pyricularia grisea..... *Sacc.*
Peronospora obducens..... *Schrot.*
Oidium irregulare..... *Pk.*
Cercospora Nymphæacea..... *C. & E.*
C. Smilacis..... *Thum.*
C. elongata..... *Pk.*
C. squalidula..... *Pk.*
C. Caulophylli..... *Pk.*
C. griseëlla..... *Pk.*
C. zebrina..... *Pass.*
C. althæina..... *Sacc.*
C. Sanguinariæ..... *Pk.*
Ramularia Armoraciæ..... *Fckl.*
R. Dulcamaræ..... *Pk.*
R. Mitellæ..... *Pk.*
R. Celastri..... *Pk.*
Microstroma leucosporum..... *Niessl.*
Fusisporium Solani..... *Mart.*
Helvella palustris..... *Pk.*
Peziza subvernalis..... *Pk.*
P. luteodisca..... *Pk.*
P. multipuncta..... *Pk.*
P. floriformis..... *Pk.*
P. mycogena..... *Ellis.*
P. regalis..... *C. & E.*
P. sanguinea..... *Pers.*

Helotium vitigenum..... *De Not.*
H. pallescens..... *Fr.*
H. affinissimum..... *Pk.*
Patellaria Hamamelidis... *Pk.*
Cenangium Viburni..... *Schw.*
Caliciopsis pinea..... *Pk.*
Hysterium gramineum. ... *M. & N.*
Taphrina alnitorqua ..... *Tul.*
Nectria dematiosa..... *Schw.*
Xylaria bulbosa..... *B. & Br.*
Hypoxylon Blakei ..... *B. & C.*
Eutypa subtecta..... *Fr.*
Diatrype quadrata..... *Schw.*
D. strumella..... *Fr.*
Diatrype nigrospora..... *Pk.*
Valsa Carpini..... *Pers.*
Valsa aurea..... *Fckl.*
V. paucispora..... *Pk.*
V. compta..... *Tul.*
V. Prunicola..... *Pk.*
V. tessera..... *Fr.*
V. Abietis ..... *Fr.*
V. acrocystis..... *Pk.*
Cucurbitaria longitudinalis. *Pk.*
Sphærella recutita..... *Fr.*
S. depressa..... *Pk.*
S. conigena..... *Pk.*

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Mrs. S. M. Rust, Syracuse, N. Y.

Epipactis helleborine v. viridans, *Irm.*

Mrs. M. J. Myers, Syracuse, N. Y.

Scolopendrium vulgare, *Sm.*

Mrs. H. S. Gifford, Syracuse, N. Y.

Botrychium Lunaria, *Sw.*

Miss L. G. Barnett, Cannonsburg, Pa.

Secotium Warnei ..... *Pk.*
Geaster limbatus. ..... *Fr.*

Mrs. L. A. Millington, South Haven, Mich.

Ascomyces deformans, *Berk.*

Prof. D. C. Eaton, New Haven, Ct.

Asplenium Bradleyi, *Eaton.*

Prof. S. A. Forbes, Normal, Ill.

Septoria podophyllina..... *Pk.*
S. Trillii ..... *Pk.*
Septoria Lactucæ..... *Pass.*
Cellulosporium sphærosporum, *Pk.*

C. Atwood, Moravia, N. Y.

Danthonia compressa, *Aust.*

S. H. Wright, M. D., Penn Yan, N. Y.

Enonymus Americanus v. obovatus, *T. & G.*

E. H. Crocker, Troy, N. Y.

Trifolium repens, *L.*

F. B. Hine, Silver Cliff, Col.

Bovista subterranea, *Pk.*

C. W. Irish, Iowa City, Iowa.

Myconastrum spinulosum.... *Pk.*
Bovista subterranea..... *Pk.*

E. Michener, M. D, Toughkenamon, Pa.

Polyporus elongatus..... *Berk.*
Tuber excavatum..... *Vitt.*

Hon. T. M. Peters, Moulton, Ala.

Phallus rubicundus..... *Bosc.*
Cenangium platascum..... *Pk.*
Hypoxylon Petersii... .... *B. & C.*
Collema callibotrys..... *Tuckm.*

E. W. Holway, Decorah, Iowa.

Æcidium Polemonii..... *Pk.*	Æcidium albescens ..... *Grev.*

W. Barbeck, Philadelphia, Pa.

Enerthenema papillata ..... *Pers.*	Chondrioderma floriforme.. *Bull.*

Prof. W. G. Farlow, Cambridge, Mass.

Uromyces Peckiana..... *Far.*	Ascomyces flavus ..... *Far.*
U. Junci v. Spartinæ, *Far.*	A. deformans v. Potentillæ ..... *Far.*
Puccinia Epil. v. Proserpinaceæ..... *Far.*	

E. S. Miller, Wading River, N. Y.

Ranunculus Ficaria..... *L.*	Pogonia verticillata..... *Nutt.*
Rumex maritimus..... *L.*	Marsilia quadrifolia..... *L.*
Alnus glutinosa..... *Gært.*	Cystoclonium purpurascens, *Ktz.*

W. R. Gerard, New York, N. Y.

Stereum scribilitum..... *B. & Cke.*	Tuber dryophilum..... *Tul.*
Simblum rubescens..... *Ger.*	Sphærella spleniata..... *C. & P.*

E. A. Rau, Bethlehem, Pa.

Gymnosporangium speciosum..... *Pk.*	Trichobasis Oxytropi..... *Pk.*
Puccinia atropuncta ..... *P. & C.*	Æcidium monoicum..... *Pk.*
Lecythea macrospora..... *Pk.*	Æ. Jamesianum ..... *Pk.*

Prof. J. Macoun, Belleville, Ont.

Paxillus hirsutus..... *Pk.*	Polyporus Macouni..... *Pk.*

C. C. Frost, Brattleborough, Vt.

Lycoperdon Frostii, *Pk.*

A. P. Morgan, Dayton, Ohio.

Polyporus frondosus..... *Fr.*	Polyporus graveolens ..... *Schw.*
P. Morgani..... *Frost.*	Stemonitis Morgani..... *Pk.*

J. J. Brown, M. D., Sheboygan, Wis.

Agaricus amabilipes ..... *Pk.*	Lycoperdon cælatum..... *Bull.*
Mycenastrum spinulosum.. *Pk.*	L. cyathiforme ... *Bosc.*

M. E. Jones, Grinnell, Iowa.

Sorosporium atrum..... *Pk.*	Tricholasis gaurina..... *Pk.*
S. Astragali ..... *Pk.*	Æcidium gaurinum..... *Pk.*
Puccinia aberrans..... *Pk.*	Æ. Gilliæ ..... *Pk.*
P. intermixta..... *Pk.*	Æ. intermixtum..... *Pk.*
P. Physalidis..... *Pk.*	Sphærella megastoma..... *Pk.*
Uromyces hyalinus ..... *Pk.*	

Prof. D. S. Martin, New York, N. Y.

Roestelia lacerata, *Tul.*

N. L. Britton, New Dorp, N. Y.

Desmodium viridiflorum.... *Beck.*	Quercus Phellos..... *L.*
Ribes Grossularia..... *L.*	Spiranthes simplex..... *Gr.*
Disdia teres..... *Walt.*	Juncus maritimus..... *Lam.*
Artemisia cadauta..... *Mx.*	Cyperus cylindricus ..... *Britton.*
Veronica Buxbaumii..... *Ten.*	Scirpus sylvaticus..... *L.*
Mentha rotundifolia..... *L.*	Carex extensa..... *Good.*
Heliotropium Europæum... *L.*	Muhlenbergia capillacis.... *Kunth.*

Hon. G. W. Clinton, Buffalo, N. Y.

Agaricus bombycinus	*Schaff.*	Melogramma gyrosum	*Schw.*
Clavaria pyxidata	*Pers.*	Cystopus cubicus	*Lev.*
Pestalozzia Guepini	*Desm.*	Peziza sanguinea	*Pers.*
Puccinia Ellisiana	*Thum.*	Cenangium Viburni	*Schw.*
P. atropuncta	*P. & C.*	Rhytisma sparsum	*P. & C.*
Stilbum erythrocephalum	*Ditm.*	Diatrype quadrata	*Schw.*

Arthur Hollick, Port Richmond, N. Y.

Ranunculus Ficaria	*L.*	Eclipta procumbens	*Mx.*
Portulaca grandiflora	*Hook.*	Tecoma radicans	*Juss.*
Fragaria Indica	*Ait.*	Morus alba	*L.*
Ribes Grossularia	*L.*	Tripsacus dactyloides	*L.*
Diodia teres	*Walt.*		

J. B. Ellis, Newfield, N. J.

Stereum zonatum	*Ell.*	Ombrophila aurea	*Ell.*
Pestalozzia monochaeta	*Desm.*	O. subaurea	*Cke.*
Cladosporium fasciculatum	*C. & E.*	O. violacea	*Fr.*
Macrosporium atrichum	*C. & E.*	Stictis pinophila	*Ell.*
M. inquinans	*C. & E.*	S. linearis	*C. & E.*
Trichothecium griseum	*Cke.*	Dothidea petiginosa	*Ell.*
Colletotrichum caudatum	*Pk.*	Diatrype rhuina	*C. & E.*
Fusisporium cyathicolum	*Ell.*	Eutypa subtecta	*Fr.*
Peziza acerina	*C. & E.*	Valsa delicatula	*C. & E.*
P. mauribarba	*Ell.*	V. myinda	*C. & E.*
P. tenella	*C. & E.*	V. chlorodisca	*C. & E.*
P. lethalis	*Ell.*	Sphaeria anguillida	*C. & E.*
Patellaria clavata	*Ell.*	S. subexserta	*C. & E.*
Phacidium sphaeroideum	*C. & E.*	Venturia ciliata	*Ell.*

(4.)

PLANTS NOT BEFORE REPORTED.

Ranunculus ficaria, *L.* Flushing, Long Island, *J. Schrenk.* Contributed by *E. S. Miller.* Staten Island, *Arthur Hollick.* Introduced.

Lechea racemulosa, *Mx.* Highland Mills, Orange County. July.

Lechea tenuifolia, *Mx.* Wading River, Long Island. Sept.

Portulaca grandiflora, *Hook.* New Brighton, Staten Island. *Hollick.* July. Escaped from cultivation.

Lespedeza reticulata, *Pers.* Long Island. This and its variety, *angustifolia*, were formerly regarded as varieties of *L. violacea*, and were reported as such, but they are now regarded as a distinct species.

Fragaria Indica, *Ait.* West Brighton, Staten Island. *Hollick.* June–Sept.

Ribes Grossularia, *L.* Princes Bay and New Dorp, Staten Island. *N. L. Britton* and *A. Hollick.* May. Escaped from cultivation.

Diodia teres, *Walt.* Rossville and Tottenville, Staten Island. *Britton* and *Hollick.* Aug.

Eclipta procumbens, *Mx.* Streets of New Brighton. *Hollick.* July.

Rudbeckia triloba, *L.* Fishkill, Dutchess county. Sept.

Tecoma radicans, *Juss.* Princes Bay. *Hollick.* June.

Veronica Buxbaumii, *Ten.* New Dorp. *Britton.* June. Introduced.

Mentha rotundifolia, *L.* Richmond, Staten Island. *Britton.* Jamesville, Onondaga county. Aug. and Sept. Introduced.

Salvia sclarea, *L.* Jamesville. Aug. Introduced.

Heliotropium Europæum, *L.* New York city, along Eighth avenue and Harlem railroad. *Britton.* Oct. Introduced.

Rumex maritimus, *L.* Montauk Point. *Miller.*

Alnus glutinosa, *Gært.* College Point, Long Island. *Schrenk.* Contributed by *E. S. Miller.* Introduced.

Epipactis helleborine var. viridans, *Irm.* Woods, near Syracuse. *Mrs. S. M. Rust.* July. This is a very interesting and important addition to our flora. It is at present the only known representative of the genus in the eastern part of the country as *E. gigantea* is in the western part. It is remarkable that it should be limited to a single locality, but that locality had already been rendered famous by its possession of two ferns, *Botrychium Lunaria* and *Scolopendrium vulgare*, that, so far as our State is concerned, scarcely pass beyond its limits. *Mrs. M. P. Church*, a member of the Syracuse Botanical Club, has the credit of making this discovery, which has been favorably noticed by Prof. Gray and Prof. Hooker, and has already been published in the botanical journals.

Spiranthes simplex, *Gray.* Wading river, where it had previously been detected by *Mr. Miller.* Also Tottenville. *Britton.* Aug. and Sept. It is not probable that this species occurs much to the north of New York city.

Glyceria obtusa, *Trin.* Riverhead, Long Island. Sept.

Tripsacum dactyloides, *L.* Long Bridge, Staten Island. *Hollick.* Aug.

Asplenium Bradleyi, *Eaton.* Near Newburgh. *D. C. Eaton.* Sept. This fern was discovered and the specimens collected, in the locality mentioned, by *Prof. Eaton*, in the year 1864. In September last I visited the locality and searched carefully for the plant, but without success. The top of the rocky hill on which the fern had occurred had recently been cleared and it is possible that its station has already been destroyed.

Cladonia Boreri, *Tuckm.* (*Cladonia lacunoso* Delise.) Wading River. Sept.

Vaucheria velutina, *Ag.* Wet springy places. Albany. June. The specimens are not fertile and are, therefore, to some extent, doubtful.

Agaricus solitarius, *Bull.* Thin woods and open places, Wading River. Sept. A form with the bulb and lower part of the stem merely floccose-squamulose, or clothed with white mealy particles.

Agaricus strobiliformis, *Vitt.* Open bushy places, Catskill mountains. Oct.

Agaricus Frostianus, *Pk.* Woods and bushy places, Sandlake and Adirondack mountains.

Agaricus rhagadiosus, *Fr.* Woods. Wading River. Sept.

Agaricus candicans, *Pers.* Among fallen leaves in woods. Center. Oct.

Agaricus (Clitocybe) compressipes, *n. sp.* Pileus thin, convex or expanded, umbilicate, glabrous, hygrophanous, brownish when moist, whitish or pale-alutaceous when dry, margin thin; lamellæ close,

subarcuate or horizontal, adnate or subdecurrent, whitish; stem firm, hollow, generally compressed, slightly pruinose; spores elliptical, .0002 in. to .00025 in. long, .00016 in. to .00018 in. broad; flesh white when dry, odor slight, farinaceous. Plant gregarious, 1 in. to 1.5 in. high, pileus 6 lines to 16 lines broad, stem 1 line to 2 lines thick. Grassy places. Albany. July. The moist pileus is sometimes obscurely zonate. The odor is not always perceptible unless the pileus is moist or broken. The stem is sometimes compressed at the top only, sometimes at the base only, and rarely it is wholly terete. The species belongs to the section Orbiformes.

Agaricus (Clitocybe) vilescens, *n. sp.* Pileus convex, then plane or depressed, often irregular, glabrous, slightly pruinose on the involute margin, brown or grayish-brown, becoming paler with age, often concentrically rivulose; lamellæ close, adnate or decurrent, cinereous, sometimes tinged with dingy yellow; stem short, solid, sometimes compressed, grayish-brown, with a whitish tomentum at the base; spores subglobose or broadly elliptical, .0002 in. to .00025 in. long; flesh whitish-gray, odor slight. Plant gregarious, 1 in. to 2 in. high, pileus 1 in. to 1.5 in. broad, stem 1 line to 2 lines thick. Grassy pastures. Jamesville. Aug.

Agaricus trullisatus, *Ellis*. Sandy soil. Long Island. Sept. This resembles the larger forms of *A. laccatus*, but it has a stouter habit, the pileus is more squamulose, the stem is bulbous or thickened at the base, the mycelium is violet-colored and the spores are oblong.

Agaricus confluens, *Pers*. Woods. Verona and Jamesville. Aug.

Agaricus iris, *Berk*. Decaying trunks of trees. Jamesville. Aug. Our specimens have the edge of the lamellæ minutely floccose and the base of the stem covered with a blue mycelium. The species seems too near *A. marginellus*.

Agaricus bombycinus, *Schæff*. Trunks of maple trees. Buffalo. *Clinton*. Kasoag and Catskill mountains. July and Aug.

Agaricus (Eutoloma) scabrinellus, *n. sp.* Pileus thin, convex or nearly plane, papillate, minutely scabrous, dark-brown, the thin margin extending slightly beyond the lamellæ; lamellæ broad, ventricose, rounded behind and slightly attached, floccose on the edge, dingy-white, then flesh-colored; stem equal, fibrillose, slightly pruinose at the apex, paler than the pileus; spores irregular, uninucleate, .0003 in. to .0004 in. long, .0002 in. to .0003 in. broad. Plant about 1 in. high, pileus 6 lines to 10 lines broad, stem 1 line thick. Shaded, gravelly soil by roadsides. Wading River. Sept. The plants are very regular in shape, the pileus usually has a small, papilla-like umbo and is somewhat shining. Its roughness is scarcely visible to the naked eye.

Agaricus curvipes, *Fr*. Dead trunks of young trees. Verona. Aug. Our specimens have the lamellæ flocose-crenate on the edge.

Cortinarius multiformis, *Fr*. Woods. Jamesville. Aug. The specimens were collected in dry weather and the pileus was not perceptibly viscid except in very young plants. The bulbous base of the stem is not always distinctly marginate.

Cortinarius tophaceus, *Fr*. Woods. Jamesville. Aug. The spores in this species are subglobose, rough, uninucleate, .00025 in. to. 0003 in. long, 00025 in. broad.

Mentha rotundifolia, *L.* Richmond, Staten Island. *Britton.* Jamesville, Onondaga county. Aug. and Sept. Introduced.

Salvia sclarea, *L.* Jamesville. Aug. Introduced.

Heliotropium Europæum, *L.* New York city, along Eighth avenue and Harlem railroad. *Britton.* Oct. Introduced.

Rumex maritimus, *L.* Montauk Point. *Miller.*

Alnus glutinosa, *Gært.* College Point, Long Island. *Schrenk.* Contributed by *E. S. Miller.* Introduced.

Epipactis helleborine var. viridans, *Irm.* Woods, near Syracuse. *Mrs. S. M. Rust.* July. This is a very interesting and important addition to our flora. It is at present the only known representative of the genus in the eastern part of the country as *E. gigantea* is in the western part. It is remarkable that it should be limited to a single locality, but that locality had already been rendered famous by its possession of two ferns, *Botrychium Lunaria* and *Scolopendrium vulgare*, that, so far as our State is concerned, scarcely pass beyond its limits. *Mrs. M. P. Church*, a member of the Syracuse Botanical Club, has the credit of making this discovery, which has been favorably noticed by Prof. Gray and Prof. Hooker, and has already been published in the botanical journals.

Spiranthes simplex, *Gray.* Wading river, where it had previously been detected by *Mr. Miller.* Also Tottenville. *Britton.* Aug. and Sept. It is not probable that this species occurs much to the north of New York city.

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Cortinarius tophaceus, *Fr*. Woods. Jamesville. Aug. The spores in this species are subglobose, rough, uninucleate, .00025 in. to. 0003 in. long, 00025 in. broad.

Cortinarius (Inoloma) pulchrifolius, *n. sp.* Pileus convex or expanded, obtuse, silky-fibrillose, whitish or reddish-gray, the margin often whitened by the veil; lamellæ broad, subdistant, emarginate, bright purple or violet-purple; stem cylindrical, solid, bulbous, silky-fibrillose, white, often tinged with violet, violaceous within; spores subelliptical, rough, .0004 in. to .0005 in. long, about .0003 in. broad. Plant 2 in. to 4 in. high, pileus 2 in. to 4 in. broad, stem 3 lines to 5 lines thick. Oak woods. Wading River. Sept. This species is easily known by its pale pileus and bright-colored lamellæ. From the hue of these the plant might, at first sight, be taken for *Agaricus ochropurpureus*, but when mature the lamellæ assume the characteristic cinnamon color of species of Cortinarius, though it is somewhat darker than usual.

Cortinarius (Inoloma) rubrocinereus, *n. sp.* Pileus convex, then expanded, silky-fibrillose, reddish-cinereus; lamellæ subdistant, rounded behind, emarginate, dingy-violaceous, soon becoming pale-cinnamon; stem short, solid, bulbous, silky-fibrillose, whitish tinged with violet; spores subelliptical, .0004 in. to .0005 in. long, about .0003 n. broad; veil whitish-cinereus, flesh when young violaceous. Plant gregarious, about 2 in. high, pileus 2 in. to 3 in. broad, stem 4 lines to 6 lines thick. Sandy soil in open places. Riverhead. Sept. This species is closely related to the preceding, from which it is separated by its darker colored pileus and differently colored lamellæ.

Cortinarius uliginosus, *Berk.* In sphagnous bogs. Center. Sept. The fingers become stained in handling fresh specimens of this plant. Paper in which they are wrapped is also stained by them. The spores are elliptical-cymbiform, .0004 in. long, .00025 in. broad. The pileus is sometimes obtusely, sometimes acutely, umbonate, and sometimes without any umbo.

Cortinarius crocecoconus, *Fr.* Woods. Gansevoort. Aug.

Cortinarius (Dermocybe) sericipes, *n. sp.* Pileus thin, conical or subcampanulate, sometimes expanded and umbonate, glabrous, chestnut-color, the umbo often darker; lamellæ broad, close, ascending or ventricose, narrowed behind, whitish, then tawny or tawny-cinnamon, white on the edge; stem equal, hollow, silky-fibrillose, shining, white, slightly mealy at the top; spores large, unequally elliptical, pointed at each end, granular within, .00065 in. long, .00045 in. broad. Plant gregarious or subcæspitose, 1 in. to 3 in. high, pileus 6 lines to 12 lines broad, stem 1 line to 2 lines thick. Damp ground in thin woods. Center. Oct.

Cortinarius (Dermocybe) basalis, *n. sp.* Pileus thin, convex or expanded, hairy, tawny; lamellæ loose, subventricose, pale tawny when young, cinnamon color when old; stem short, equal, hollow, fibrillose, pallid or pale-tawny, usually with a webby annulus near the base; spores subelliptical, .0003 in. long, .00018 in. broad; flesh pallid, odor none. Plant subcæspitose, about 1 in. high, pileus 5 lines to 10 lines broad, stem 1 line thick. Naked soil in wood. Wading River. Sept. The noticeable feature in this species is the slight annulus which is placed below the middle of the stem. The hairy pileus and the lamellæ are nearly alike in color.

Russula fragilis, *Fr.* Woods. Center. Oct.

Cantharellus brevipes, *n. sp.* (Plate 1, figs. 18–20.) Pileus fleshy, obconic, glabrous, alutaceous or dingy cream-color, the thin margin erect, often irregular and lobed, tinged with lilac in the young plant; folds numerous, nearly straight on the margin, abundantly anastomosing below, pale umber tinged with lilac; stem short, tomentose-pubescent, cinereus, solid, often tapering downward; spores yellowish, oblong-elliptical, uninucleate, .0004 in. to .0005 in. long, .0002 in. broad. Plant 3 in. to 4 in. high, pileus 2 in. to 3 in. broad, stem 4 lines to 6 lines thick. Woods. Ballston, Saratoga county. July. This interesting species is related to the *C. floccosus*, both by its short stem and its abundantly anastomosing folds. The two species should be separated from the others and constitute a distinct section. The flesh in *C. brevipes* is soft and whitish and the folds are generally thinner than in *C. floccosus*.

Panus levis, *B. & C.* Oak stumps. Wading River. Sept. The margin of the pileus is sometimes marked by small, oblique elevations or ridges which unite inwardly and thus form, with the edge of the pileus, small triangular spaces. Sometimes the two elevated lines which form the sides of a triangle divide near the margin and thus form two very small additional triangles. The pure white color and regular, even pileus make this a very pretty species The color, however, becomes slightly tinged with yellow in drying.

Panus dealbatus, *Berk.* Decaying wood of deciduous trees. Verona Aug.

Boletus Frostii, *Russell.* Thin woods. Wading River and Riverhead. Sept. The spores in our specimens are longer than required by the description, but in other respects the specimens agree with the published characters of the species.

Polyporus (Anodermei) hispidoides, *n. sp.* Pileus 4 in. to 8 in. broad, about half an inch thick, sessile, rarely narrowed behind or below into a short, stem-like base, soft, spongy, fleshy-fibrous, tomentose, not at all or very obscurely zonate, ferruginous-brown, becoming darker with age, yellow on the margin when young; pores small, irregular, subrotund, angular or flexuous, greenish-yellow, becoming brown when bruised or old, the thin dissepiments externally villous; spores subglobose or broadly elliptical, about .0002 in. long. Base of spruce or pine trees. Albany, Burnt hills and Adirondack mountains. July and Aug. This fungus is closely related to *P. hispidus*, and may yet prove to be a mere variety of it. That species is described as compact, and having minute rotund pores. It is also said to grow on the trunks of frondose trees, and to have a thick pileus, none of which characters are applicable to our plant. It occurs only, so far as I have seen, on trunks of spruce and pine, its pileus is rarely more than half an inch thick, its substance is soft, even when dry, and the pores are angular. The thin dissepiments become more or less lacerated when old, and often retain a yellowish color when dried. The pileus is very similar in color to *Lensites sepiaria*.

Polyporus benzoinus, *Wallr.* Decaying stumps and trunks of hemlock trees. Brewerton and Helderberg mountains. Sept. This closely resembles *P. resinosus* which occurs on trunks of frondose trees.

form; spores oblong, obtuse, colored, three to five-septate, sometimes with one or two longitudinal septa, .0008 in. to .001 in. long.

Dead twigs of *Colutea arborescens*. Buffalo. *Clinton*.

Sphæropsis brunneola, *P. & C.* Dead stems of *Smilax hispida*. Buffalo. *Clinton*. The specimens do not fully accord with the description of the species, but probably belong to it.

Sphæropsis phomatella, *n. sp.* Perithecia numerous, minute, seated on indefinite whitish or pallid spots, covered by the epidermis which is at length ruptured, black; spores oblong, at first hyaline, then colored, .0008 in. to .0012 in. long; sporophores short.

Dead shoots of ash, *Fraxinus Americana*. West Troy. May. The perithecia are very small and at first sight suggest the idea of a Phoma.

Sphæropsis abundans, *n. sp.* Perithecia numerous, erumpent, closely surrounded by the ruptured epidermis, black; spores very unequal, elliptical or oblong, at first hyaline and pedicellate, then colored, obtuse, .00065 in. to .0009 in. long, about .0005 in. broad. Dead twigs and branches of rock chestnut oak. Albany and North Greenbush. May. The twigs are roughened by the numerous perithecia and they sometimes have a darker appearance where they are affected by the Sphæropsis. The epidermis is ruptured very irregularly. *Sphæropsis dryina* differs in its smaller colorless spores, and *S. hinearis*, in its linear arrangement. This last species occurs also on young dead shoots of hickory, *Carya alba*.

Sphæropsis cerasina, *n. sp.* Perithecia numerous, small, seated on the inner bark, covered by the slightly elevated epidermis which is at length pierced or slightly ruptured, black, often cinereous above; spores at first hyaline, then colored, ellipticalobovate or oblong, .0008 in. to .001 in. long; sporophores short. Dead branches of choke cherry, *Prunus Virginiana*. West Albany. May.

Sphæropsis seriatus, *n. sp.* Perithecia hard, crowded or subcæspitose, arranged in long lines in the chinks of the rough bark, black; spores at first pale, then colored, ellipticalo bovate or oblong, .0008 in. to .001 in. long. Dead bark of sassafras, *Sassafras officinale*. Center. May. The hard sclerotoid perithecia and the linear arrangement of the clusters make this a very distinct species.

Sphæropsis celastrina, *n. sp.* Perithecia numerous, small, seated on the inner bark, covered by the epidermis which is slightly elevated and at length pierced or slightly ruptured; spores oblong or oblong-ovate, colored, .0008 in. to .001 in. long. Dead stems of bitter-sweet, *Celastrus scandens*. Charlton. July. This is quite unlike *S. propullans* in which the perithecia are much larger and cæspitose. The epidermis is usually whitish or cinereous over each perithecium and it ruptures slightly, forming a small aperture.

Sphæropsis milacina, *n. sp.* Spots orbicular, 2 lines to 3 lines broad, arid, whitish with a dark border; perithecia epiphyllous, subhemispherical or depressed, black, often disposed in a circle near the margin of the spot; spores oblong or subfusiform, colorless, .0008 in. to .0012 in. long, about .0003 in. broad. Living leaves of greenbrier, *Smilax rotundifolia*. Wading River. Sept.

Septoria pastinacina, *n. sp.* Spots extended, indefinite, brown; perithecia minute, .005 in. to .006 in. broad, numerous, surrounding the stem on all sides, covered by the epidermis which is pierced by the

ostiolum, black; spores filiform, curved or flexuous, .0008 in. to .0012 in. long. Dead stems of parsnip, *Pastinaca sativa*. Albany. May It is related to such species as *S. Brunandiana*, *S. nebula*, etc.

Septoria hedeomina, *n. sp.* Spots none; perithecia scattered, minute, .003 in. to .004 in. broad, inconspicuous, black; spores filiform, strongly curved, hyaline, .0012 in. to .0015 in. long. Dead stems and calyces of pennyroyal, *Hedeoma pulegioides*. Sandlake. May.

Septoria Gei, *R. & D.* Living leaves of *Geum Virginianum*. Guilderland. July.

Septoria Ostryæ, *n. sp.* Spots small, suborbicular, reddish-brown; perithecia few, generally clustered in the center of the spot, brown or blackish-brown; spores linear, strongly curved, obscurely three or four-septate, colorless, .0016 in. to .0024 in. long. Living leaves of hop hornbeam, *Ostrya Virginica*. Helderberg mountains. July.

Septoria lythrina, *n. sp.* Spots suborbicular or irregular, grayish-brown, often surrounded by a narrow blackish border; perithecia minute, epiphyllous, rarely amphigenous, blackish; spores filiform, slightly curved, .0008 in. to .0016 in. long. Living leaves of spiked loosestrife, *Lythrum Salicaria*. Newburgh. July.

Septoria increscens, *n. sp.* Spots at first small, then larger, brown with an arid center; perithecia minute, black; spores filiform, curved or flexuous, .0012 in. to .0016 in. long. Living leaves of star flower. *Trientalis Americana*. Charlton. July. After the leaves are attacked by this fungus they turn yellow in patches and then brown. These discolored places increase in size till the whole leaf is dead.

Septoria atropurpurea, *n. sp.* Spots suborbicular, sometimes confluent, purplish-brown above, often centrally mottled by small whitish arid spots, paler below, purplish, with a brown or an ochraceous-brown center; perithecia few, tendrils white; spores filiform, straight or flexuous, .002 in. to .003 in. long. Living leaves of the large-leaved aster, *Aster macrophyllus*. Jamesville. Aug. The perithecia occur both on the arid central dots and on the colored parts of the spots. The peculiar character of the spots and the very long spores make this a very distinct species.

Septoria Aceris, *B. & Br.* Living leaves of sugar maple, *Acer saccharinum*. Sandlake. Aug. In our specimens the spots are very small, almost dot-like, arid, with a reddish-brown border and one to four perithecia. The spores are three-septate and strongly curved, but this difference is probably only varietal.

Septoria Ludwigiæ, *Cke.* Living leaves of water purslane, *Ludwigia palustris*. Charlton. July. In our specimens the spots have a purplish border and the spores are without nucleoli. Dr. Curtis long ago distributed specimens of this species under the name *Septoria Ludwigiæ* B. & C., but so far as I know the characters of the species were never published.

Septoria Mori, *Lev.* Living leaves of white mulberry, *Morus alba*. Charlton. July.

Septoria Urticæ, *Desm.* Living leaves of wood nettle, *Laportea Canadensis*. Charlton. July.

Septoria Cornicola, *Desm.* Living leaves of red osier and alternate-leaved dogwood, *Cornus stolonifera* and *C. alternifolia*. Jamesville and Center. Aug. and Oct.

Cytispora minuta, *Thum.* Dead branches of ash, *Fraxinus Americana.* West Troy. May.

Glœosporium Trifolii, *n. sp.* Spots suborbicular often concentrically zoned, brown; spores oblong or cylindrical, obtuse, simple, colorless, .0006 in. to .0008 in. long, .00016 in. to .00025 in. broad Living leaves of red clover, *Trifolium pratense.* Albany. July.

Glœosporium salicinum, *n. sp.* Spots large, irregular, indefinite, arid, pale; spores elongated, subfusiform, curved or flexuous, obscurely triseptate, each cell usually containing two nuclei, colorless, .0016 in. to .002 in. long. Living leaves of willow, *Salix sericea.* Sandlake. Aug. Usually one end of the spore is more acute than the other.

Glœosporium Hepaticæ, *n. sp.* Spots large, irregular, often discoloring the whole leaf, blackish-brown; pustules minute, scattered, epiphyllous, the thick tendrils pinkish when dry; spores oblong or cylindrical, colorless, obtuse at each end, straight or slightly curved, .0006 in. to .001 in. long, .00025 in. to .0003 in. broad, usually with two to four nuclei. Living leaves of liverwort, *Hepatica acutiloba.* Helderberg mountains. July. This species appears to be very destructive to the leaves it attacks. The discoloration apparently spreads rapidly and finally involves the whole leaf.

Glœosporium Laportæ, *n. sp.* Spots orbicular, yellowish-green with a dark-margined arid center; spores simple, globose or elliptical, colorless, .00016 in. to .00025 in. long, uninucleate or binucleate, forming a pallid globule on the upper surface of the spot. Living leaves of wood nettle, *Laportea Canadensis.* Charlton. July.

Coryneum pustulatum, *n. sp.* (Plate 1, figs. 1–3.) Pustuliform, seated on the inner bark, covered by the elevated epidermis which is at length pierced or slightly ruptured; spores long, subclavate or subfusiform, colored, five to seven septate, often strongly curved, .0025 in. to .003 in. long, about .0005 in. broad; sporophores short. Dead branches of oak or chestnut. Sandlake. May. The spores sometimes ooze out and stain the matrix black. This and its pustulate form give the fungus the appearance of a *Stilbospora*, though the structure indicates that it is a *Coryneum.*

Pestalozzia Guepini *Desm.* Living leaves of Camellia in conservatories. Buffalo. *Clinton.*

Asterosporium betulinum, *n. sp.* (Plate 1, figs. 4–5.) Pustulate, erumpent, with a black orbicular disk, the stroma filamentous; spores three or four-radiate, slightly colored, the rays oblong-ovate or elongate-conical, subacuminate, three to five-septate, .0008 in. to .0015 in. long, .00035 in. to .00048 in. broad in the widest parts, slightly narrowed at the base, the cells often uninucleate, the terminal one paler. Dead branches of birch, *Betula lutea.* Quaker Street. June. Externally this closely resembles *A. Hoffmanni*, but in European specimens of that species the rays are triangular-ovate and widest at the base where they are .00065 in. broad. In our plant they are paler, narrower, more elongated and abruptly narrowed at the base. I have been unable to detect a perithecium else I should refer our plant to *Prosthemium betulinum* Kze.

Melanconium serasinum, *n. sp.* Stroma distinct, thin, white; spores very unequal, globose, ovate, elliptical or oblong, .00065 in. to .001

in. long, generally containing a single large nucleus. Dead bark of choke cherry, *Prunus Virginiana*. Center. June. This species is closely related to *M. intermedium*, from which it is distinguished by its paler, smaller spores and especially by its distinct white stroma. In. *M. intermedium* the stroma is obsolete or merely cortical. It also approaches *M. effusum* Cd.

Torula uniformis, *n. sp.* (Plate 1, figs. 11–13.) Flocci cæspitose, erect, parallel or slightly diverging, nearly straight and uniform in diameter, .0012 in. to .003 in. long, black or blackish-brown, the articulations subquadrate, uninucleate, not easily separating, about .00016 in. broad and long. Dead bark of maple. Quaker Street. June. The flocci are slightly united at their bases, and when pressed under the cover of the microscope slide they separate into groups of two to six or more, and look then very much like a species of Speira or Synphragmidium. The species differs from *T. splendens* in its more slender flocci, which also are not narrowed above.

Synphragmidium effusum, *n. sp.* (Plate 1, figs. 6–10.) Effused, forming a dense velvety black stratum; strings of spores moniliform, colored, sometimes paler at the tips, united at their bases into groups of three or more, either with or without a short common pedicel, at first laterally adherent throughout their length, .0016 in. to .003 in. long, .0002 in. to .0003 in. broad, the groups .0005 in. to .0011 in. broad, the cells about as long as broad. Decaying maple wood. Verona. Aug.

I have not been able to detect any membrane investing the groups of spore threads, but its absence may be due to the age of the specimens. In every other respect the characters of the genus are present. The species is readily distinguished from *S. Kummeri* by its effused character. The preceding species, *Torula uniformis*, strongly resembles this in its spore threads, which are united at the base, but I find no common pedicel to the groups. It forms a beautiful connecting link between *Torula* and *Synphragmidium*.

Gymnosporium variabile, *n. sp.* Flocci sparse, branched, paler than the spores; spores abundant, variable, globose, elliptical, oblong or fusiform, purplish-brown, .0005 in. to .0012 in. long, .0005 in. to .00055 in. broad, forming effused pulverulent patches. Under surface of decaying wood lying on the ground. Albany. May. The species is related to *G. fulvum* from which it differs in its darker, purplish-brown color and in its smoother and more variable spores.

Puccinia Ellisiana *Thum.* Living and languishing leaves of *Andropogon scoparius* and *A. furcatus*. Buffalo. *Clinton*. Center. Sept. and Oct. This is apparently *Puccinia Andropogi* Schw., but that name is badly formed, nor can it be corrected without interfering with *Puccinia Andropogonis* Fckl. I have therefore adopted the later name.

Protomyces fuscus, *n. sp.* Spots irregular, determinate, blackish-brown or grayish-brown, often marginal; spores immersed in the tissues of the leaf, globose, colored, .0016 in. to .0024 in. in diameter, with a thick epispore. Living leaves of liverwort, *Hepatica acutiloba* Helderberg mountains. July. This species differs from *P. macrosporus* in the darker color of the spores and in its darker definite spots.

A species of *Vermicularia* often occurs on the spots formed by the *Protomyces*.

Melampsora Hartigii, *Thum.* Living leaves of willows, *Salix cordata* and *S. nigra*. Albany and Helderberg mountains. July to Oct.

Æcidium cimicifugatum *Schw.* Living leaves of black snakeroot, *Cimicifuga racemosa*. Buffalo. *Clinton*. July.

Rostelia Ellisii *Pk.* Living leaves of shad bush, *Amelanchier Canadensis*. Riverhead. Sept.

Cronartium asclepiadeum *Fr.* Living leaves of sweet fern, *Comptonia asplenifolia*. Long Island. Sept.

Stilbum prainosipes, *n. sp.* Stem slender, equal or slightly tapering upward, scarcely one line high, blackish, pruinose; head small, subglobose, chestnut colored or blackish; spores very minute, elliptical. Dead stems of raspberry, *Rubus strigosus*. Center. Oct.

Stilbum erythrocephalum *Ditlm.* Cow-dung. Buffalo. *Clinton*.

Periconia parasitica, *n. sp.* Stem slender, smooth, equal, subpellucid, white; head subglobose or lenticular, white; spores obovate elliptical or oblong, .0003 in. to .0005 in. long, about .0002 in. broad. Dead branches of water beech, *Carpinus Americana*, and parasitic on *Cheirospora botryospora*. Charlton. July.

This resembles *Stilbum candidum*, but the spores are not diffluent and the heads are more depressed and whiter.

Tubercularia Celastri *Schw.* Dead stems of bitter sweet, *Celastrus scandens*. Charlton. July.

Helminthosporium Pruni *B. & C.* Dead branches of choke cherry, *Prunus Virginiana*. Center. June. The spores in this species are very variable both in length and in the number of septa.

Macrosporium Meliloti, *n. sp.* Spots irregular, terminal or marginal, blackish-brown; flocci short, colored, septate, generally flexuous; spores subelliptical, or clavate, generally tapering below into a short pedicel, three to five-septate with a few longitudinal septa, colored, .001 in. to .002 in. long. Living leaves of melilot. Newburgh. July.

Alternaria Chartarum *Preuss.* Damp paper. Albany. Nov.

Helicosporium cinereum, *n. sp.* (Plate 2, figs. 4–6.) Patches effused, thin, cinereous; flocci slender, sparingly branched, septate, blackish-brown, the articulations longer than broad; spores nearly colorless, grayish or cinereous in the mass, coiled in three or four volutions, diameter of the coil .0008 in. to .001 in. Decaying wood. North Greenbush. June. The species is easily distinguished from *H. olivaceum* by its cinereous color and from *H. obscurum* by the more numerous volutions of the spores.

Polyactis Streptothrix, *C. & E.* Living or languishing leaves of cohosh, *Caulophyllum thalictroides*. Jamesville. Aug. The spores in our specimens, as well as in authentic specimens received from Mr. Ellis, are .011 to .012 mm. in diameter, not .018 mm. as required by the description.

Pyricularia grisea, *Sacc* (*Trichothecium griseum, Cke*). Living leaves of crab grass, *Panicum sanguinale*. Sandlake. Aug. I do not find any published description of this fungus, but specimens have been distributed under the latter name by Mr. Ellis.

Peronospora obducens, *Schrot.* Cotyledonous leaves of touch-me-not. Sandlake. May.

Oidium irregulare, *Pk.* Living leaves of bladder nut, *Staphylea trifolia.* Monroe, Orange county. July.

Cercospora Nymphæacea, *C. & E.* Living leaves of water lily, *Nymphæa odorata.* Riverhead. Sept.

Cercospora zebrina, *Pass.* Living leaves of yellow clover, *Trifolium agrarium.* Sandlake. Aug.

Cercospora altheina, *Sacc.* Living leaves of hollyhock, *Althæa rosea.* Sandlake. Aug.

Cercospora Smilacis, *Thum.* (Plate 2, figs. 1–3.) Spots numerous, small, orbicular, reddish-brown, surrounded by a darker margin on the upper surface of the leaf; flocci hypophyllous, tufted, slender, septate, nodulose above, colored; spores narrowly clavate, .0012 in. to .0024 in. long, colorless, with two to four septa. Living leaves of *Smilax glauca.* Wading River. Sept. This fungus was very abundant in the locality mentioned. The number of flocci in a tuft is usually small, generally four to eight, and the spores are so strongly narrowed toward one end that they are obclavate in form.

Cercospora elongata, *n. sp.* (Plate 1, figs. 21–23.) Spots irregular, angular, limited by the veinlets, often confluent, sometimes arid, brown grayish-brown or cinereous; flocci amphigenous, tufted, colored, subflexuous, sometimes nodulose; spores elongated, obscurely three to many-septate, gradually narrowed toward one end, colorless, .002 in to .006 in. long, .00015 in. to .0002 in. broad, generally longer than the flocci. Living leaves of wild teasel, *Dipsacus sylvestris.* Jamesville. Aug.

Cercospora squalidula, *n. sp.* Spots angular or subrotund, unequal, brown or grayish-brown with a dark border; flocci amphigenous, tufted, slightly nodulose above, colored; spores cylindrical or subclavate, unequal in length, .0012 in. to .0045 in. long, nearly colorless, simple or with one to three obscure septa. Living leaves of virgin's bower, *Clematis Virginiana.* Jamesville. Aug. The spots are sometimes of a uniform dark-brown color, sometimes grayish with a darker border. The species is distinct from *C. olivascens* which is said to grow on leaves of clematis.

Cercospora Sanguinariæ, *n. sp.* Spots large, indeterminate, smoky-brown, sometimes obscurely mottled or subreticulate with darker lines on the upper surface; flocci hypophyllous, few, scattered or subcæspitose, rather long, colored, often nodulose above; spores subcylindrical, obtuse, four to eight-septate, colorless, .0015 in. to .0025 in. long. Living or languishing leaves of blood root, *Sanguinaria Canadensis.* Jamesville. Aug. Mycelioid filaments appear to permeate the tissues of the leaf and send up, here and there, spore-bearing flocci which are generally nodulose at or near the tips. Owing to the scattered mode of growth of the flocci the fungus is scarcely visible, but the large smoky-brown spots are very conspicuous.

Cercospora Eupatorii, *n. sp.* Spots at first small and pale-green, then larger, suborbicular, determinate, reddish-gray or reddish-brown, with an elevated margin and darker border; flocci tufted, short, simple, colored; spores elongated, slender, generally slightly thickened toward one end, obtuse, colorless, triseptate, .002 in. to .003 in. long. Living leaves of *Eupatorium album.* Long Island. *Miller.*

Cercospora griseëlla, *n. sp.* Spots suborbicular, indeterminate, yel-

lowish; flocci short, minutely tufted, septate; spores slightly thickened toward one end or subfusiform, colorless, triseptate, .0016 in. to .002 in. long. Living leaves of fleabane, *Erigeron annuum*. Charlton. July. The tufts are so numerous and so minute as to give the spots on the under surface of the leaf the appearance of being suffused by a minute pruinosity.

Cercospora Caulophylli, *n. sp.* Spots irregular or suborbicular, dark-brown or grayish with a dark-brown margin; flocci hypophyllous, tufted, flexuous, nodulose above, colored, rarely branched; spores oblong or cylindrical, with one to three septa, colorless, .0008 in. to .0013 in. long, .00025 in. to .0003 in. broad. Living or languishing leaves of cohosh, *Caulophyllum thalictroides*. Helderberg mountains. July.

Ramularia Armoraciæ *Fckl.* Living leaves of horse radish, *Nasturtium Armoracia*. Charlton. July.

Ramularia Celastri, *n. sp.* Spots small, suborbicular, scattered, brown or blackish-brown, generally with a pure-white center on the upper surface; flocci hypophyllous, slender, septate, tufted; spores cylindrical, nearly straight, colorless, .0006 in. to .001 in. long, about .00015 in. broad. Living leaves of bitter sweet, *Celastrus scandens*. Highland Mills, July.

Ramularia Mitellæ, *n. sp.* Spots suborbicular, brown; flocci hypophyllous, minutely tufted, short, nearly straight, slightly colored; spores straight, oblong or cylindrical, colorless, unequal in length, .0003 in. to .0008 in. long, .00012 in. broad. Living leaves of mitrewort, *Mitella diphylla*. Newburgh and Jamesville. Aug. and Sept.

Ramularia Dulcamaræ, *n. sp.* Spots indeterminate, yellowish-green; flocci hypophyllous, branched, forming with the spores a soft felty stratum of a violet-gray color; spores oblong or subcylindrical, simple or containing several nucleoli, colorless, .0008 in. to .0018 in. long, .0002 in. to .00025 in. broad. Living leaves of nightshade, *Solanum Dulcamara*. Verona. Aug. The spots are very unequal in size and often confluent. When the leaf fades the spots retain for a longer time their greenish hue. The species in some respects approaches the genus *Peronospora*.

Microstroma leucosporum *Niessl.* (Plate 1, figs. 14–17.) Living leaves of butternut, *Juglans cinerea*. Charlton. July. It is with some hesitation that I refer our plant to this species. According to the figure of the European fungus, which occurs on leaves of *Juglans regia*, the spores are more than twice as long as broad and binucleate, while in our fungus they are scarcely twice as long as broad and uninucleate. Perhaps farther investigation will require its separation as a distinct species. It occurs on leaves of young trees.

Fusisporium Solani, *Mart.* Potatoes. Albany. March. In England, this fungus is regarded as a great pest. Mr. W. G. Smith writes of it and the potato-rot fungus as follows: "For more than thirty years our potato crops have been systematically destroyed by two virulent fungi, viz., Peronospora infestans and Fusisporium Solani, these two parasites almost invariably work in company with each other, they suddenly appear for a few weeks, destroy our crops, and vanish for ten or twelve months, then reappear and repeat the work of destruction. * * * As I have kept the resting-spores of both parasites alive artificially in decayed potato leaves in water, in moist

air and in expressed diluted juice of horse-dung, it conclusively proves to me that the resting-spores hibernate naturally in the same manner."

Helvella palustris, *n. sp.* (Plate 2, figs. 16–18.) Pileus irregular, at first blackish and slightly adnate, then grayish-brown or mouse-colored and free, rugose beneath; stem equal, slender, sulcate-costate, colored like the pileus, the costæ thin, subacute; asci cylindrical; spores broadly elliptical, .00065 in. to .0008 in. long, .0005 in. broad containing a single large nucleus; paraphyses thickened above, brown. Plant 1 in. to 2 in. high, pileus 6 lines to 12 lines broad, stem about 2 lines thick. Among mosses and liverworts in swamps. Manlius. Aug. This species is related to *H. sulcata*, from which it differs in its more slender and darker-colored stem, its less firm and more free pileus and its darker-colored paraphyses. In the dried specimens the upper surface of the pileus has assumed a blackish color, but the lower surface has retained very nearly its normal hue. The dark-colored slender stem readily separates this species from all others with costate or lacunose-costate stems.

Peziza (Cupulares) subvernalis, *n. sp.* Cups fleshy, 3 lines to 6 lines broad, sessile or with a short thick stem-like base which is sometimes whitened with mycelium, chestnut-colored when moist, darker when dry, externally slightly furfuraceous, the hymenium plane or slightly concave, subpruinose; asci cylindrical; spores smooth, elliptical, .0008 in. to .0009 in. long, .0005 in. broad; paraphyses numerous, slightly thickened above, colored. Decaying wood and bark of ash trees, *Fraxinus sambucifolia*. Sandlake. May. The color is a little paler than in *P. badia*. The thick fleshy base gradually expands into the broad, shallow or nearly plane cup, which is narrowly margined. The plants shrivel much in drying.

Peziza (Dasyscyphæ) luteodisca, *n. sp.* Cups minute, .014 in. to .028 in. broad, expanded, plane or slightly concave, margined, externally mealy-pubescent, white, the hymenium yellow, inclining to orange when dry; stem short or obsolete; asci subcylindrical; spores crowded or biseriate, fusiform, .0004 in. to .0005 in. long. Dead stems of rushes, *Scirpus validus*. Manlius. Aug. The stems are so short that at first sight the cups appear to be sessile.

Peziza (Mollisia) floriformis, *n. sp.* Cups small, one-half to one line broad, thin, smooth, at first subcyathiform and regular, then floriform with the margin wavy inflexed, dull cream-colored; asci short, cylindrical, .00065 in. to .0008 .in long; spores spermatoid. Decaying wood of maple. Verona. Aug. The margin of the larger cups is strongly inflexed in three or four places, giving the plants a resemblance to a small three or four-petalous flower.

Peziza multipuncta, *Pk.* Dead culms of carices. Albany. May.

Peziza regalis, *C. & E.* Dead branches. North Greenbush. Nov.

Peziza mycogena, *Ellis.* On some effete fungus. Griffins. Sept..

Peziza sanguinea, *Pers.* Decaying wood. Buffalo. *Clinton.* Sandlake. This species is referred by some mycologists to the genus *Patellaria*.

Helotium vitigenum, *De Not.* Dead grape vines. Albany and North Greenbush. July and Oct.

Helotium pallescens, *Fr.* Chips and decaying wood. North Greenbush. Oct.

Helotium (Pelastes) affinissimum, *n. sp.* Cups subcæspitose, stipitate, plane or convex, 1 line to 2 lines broad, yellow, the external surface and margin slightly pruinose; stem subcylindrical, yellowish, 2 lines to 4 lines long; asci cylindrical; spores oblong, obtuse, .0008 in. to .0004 in. long. Decaying sticks buried in the ground. Albany. June. This species resembles *H. lutescens* very closely, but it is more cæspitose in its mode of growth, becomes more discolored in drying and has smaller spores.

Patellaria Hamamelidis, *n. sp.* (Plate 2, figs. 7–10.) Small, .014 in to .02 in. broad, sessile, black or externally slightly tinged with reddish-brown, the disk nearly plane, margin at length obliterated; asci oblong-clavate, spores crowded or biseriate, oblong-fusiform, sometimes slightly curved, at first colorless, then slightly colored, triseptate, .00005 in. to .0008 in. long, .00025 in. to .0003 in broad. Dead bark of witch hazel, *Hamamelis Virginica.* North Greenbush. May.

Cenangium Viburni, *Schw.* Dead stems and branches of hobble bush. *Viburnum Lantanoides.* Buffalo. *Clinton.* Catskill mountains. July.

Calicíopsis, *Pk.* Receptacle oblong urceolate or subcylindrical, at first closed, then open and pulverulent at the apex, stipitate. This genus is instituted to receive a small Calicium-like fungus that does not well accord with the characters of any genus known to me. It partakes to some extent of the characters of some of the small stipitate species of *Cenangium*, but its more slender habit and urceolate or subcylindrical receptacle which soon becomes pulverulent above separate it from that genus. These same characters and its less tough substance forbid its reference to the genus *Tympanis.* The name is formed from *Calicium* and *opsis.*

Caliciopsis pinea, *Pk.* (Plate 2, figs. 11–15.) Scattered or subcæspitose, about 1 line high, glabrous, shining, black; stem slender, straight or curved, slightly thickened at the base, often growing from a cluster of black spheriform perithecia which contain spermatoid spores; receptacle narrowly urceolate, generally a little curved or inclined to one side, slightly exceeding the stem in diameter, the apex soon brownish pulverulent; asci ovate-lanceolate; long pedicellate, spores simple, elliptical, colored, .0002 in. to .00025 in. long.

Bark of pine trees, *Pinus Strobus.* Guilderland and Charlton. The peculiar form of the receptacle is suggestive of the dry capsules of many mosses, particularly of species of *Hypnum.* The spheriform bodies and their spermatoid contents are probably only another condition of this fungus. The young stems are at first pointed, but as they increase in length they become more obtuse and finally the receptacle is developed at the top. Although this plant strongly resembles species of Calicium externally, it is wholly destitute of any thalline crust and gonidial cells and must be deemed a fungus.

Tuber dryophilum, *Tul.* Staten Island. *Gerard.*

Hysterium gramineum, *M. & N.* Dead leaves of sand reed, *Calamagrostis arenaria.* Wading River. Sept. This is the *Hysterium Robergii* Desm. of Dr. Curtis' specimens. *H. culmigenum var. gramineum* Fr. and *Lophodermium arundinaceum var. gramineum,* Duby.

Taphrina alnitorqua, *Tul.* Fertile aments of alders. Newburgh. July.

Nectria dematiosa, *Schw.* Dead branches of mulberry. *Morus alba.* Charlton. July.

Xylaria bulbosa, *B. & Br.* Ground under tamarack and arborvitæ trees. Manlius. Aug.

Hypoxylon Blakei, *B. & C.* Dead trunks of willows. Buffalo. *Clinton.* Center. June. This scarcely differs from *H. Morsei* except in its spores which are a little smaller than in that species.

Eutypa subtecta, *Fr.* Dead trunks and branches of poplar, *Populus tremuloides.* Center. Sept.

Diatrype quadrata, *Schw.* Bark of oak, beech, etc. Buffalo. *Clinton.* Sandlake and North Greenbush. This is *Diatrype obesa* B. & C. in Ravenel's Exsicc. Fung. Fasc. IV, No. 47. It bursts forth from the bark of various deciduous trees and assumes a great variety of aspects, being crowded, scattered or seriately arranged and forming either large or small pustules. Schweinitz's description of it is so defective that it is not surprising that several synonyms have been made.

Diatrype strumella, *Fr.* Dead stems of flowering currant, *Ribes florida.* Albany. May.

Diatrype nigrospora, *n. sp.* Stroma small, thin, orbicular, pustulate, blackish or black, elevating the epidermis and stellately or transversely rupturing it; perithecia few, generally 6–12, sunk to the wood and covered above by the stroma; ostiola slightly prominent, piercing the subcinereous or blackish disk; asci subcylindrical, 8-spored; spores crowded or biseriate, oblong elliptical, obtuse; generally slightly curved, at first pale, then colored, uniseptate, .00065 in. long, .00032 in. broad, each cell containing a large nucleus. Dead branches of birch, *Betula lutea.* Quaker Street. June. This is related to such species as *D. morvides, D. cincta* and *D. æthiops.*

Melogramma gyrosum *Schw* Dead bark. Silver Creek, Chautauqua county. *Clinton.*

Valsa Carpini, *Pers.* Dead bark of water beech, *Carpinus Americana.* North Greenbush. May.

Valsa aurea *Fckl.* Dead branches of water beech. North Greenbush. May. This species is well marked by the small reddish or yellowish disk and the simple ovate-elliptical spores which are about .0008 in. long and .00035 in. broad.

Valsa paucispora, *n. sp.* Pustules covered by the slightly elevated epidermis which is at length ruptured; perithecia, 2–5, seated on the inner bark; ostiola short, black, piercing the minute pallid disk, even or rarely slightly radiate-sulcate; asci short, .0025 in. to .0028 in. long, subcylindrical, tetrasporous; spores simple, uniseriate, nearly colorless, ovate-elliptical, .0006 in. long to .0008 in. long, .0004 in. to .00045 in. broad. Dead alder twigs. North Greenbush. May. This is closely related to the preceding species from which it may be separated by its paler disk, shorter four-spored asci and uniseriate spores.

Valsa compta, *Tul.* Dead branches of beech, *Fagus ferruginea* Quaker Street. June. In our specimens the spores are ovate or oblong-elliptical, colorless, .0007 in. to .0009 in. in length.

Valsa prunicola, *n. sp.* Pustules scattered, slightly prominent, piercing the epidermis or rupturing it transversely; perithecia 10–12,

sunk to the wood or nestling in the inner bark; ostiola entire, crowded, slightly exserted; asci fusiform or subcylindrical; spores crowded, cylindrical, straight or slightly curved, quadrinucleate, colorless, .0005 in. to .0006 in. long, .00016 in. broad. Dead branches of wild bird cherry, *Prunus Pennsylvanica*. Sandlake. May.

Valsa tessera, *Fr.* Dead stems of hazel nut, *Corylus Americana*. Center. May.

Valsa Abietis, *Fr.* Bark of hemlock and spruce trees. West Troy, Sandlake and North Greenbush. May and Oct. In some instances the asci are wanting, the perithecia being filled with a multitude of the minute spores.

Valsa acrocystis, *n. sp.* (Plate 2, figs. 19–22.) Pustules small, covered by the epidermis, which is slightly elevated and ruptured in a narrow transverse chink; perithecia generally 4 to 12, circinating, seated on the inner bark, covered by a grayish-brown tomentum, ostiola short, blunt, black, seriately placed; asci oblong; spores large, crowded or biseriate, oblong, colored, uniseptate, .0016 in. to .0025 in. long, .0005 in. to .0008 in. broad, with a small hyaline hemispherical or subglobose appendage at each end. Dead branches of birch, *Betula lenta*. North Greenbush. May. The linear arrangement of the ostiola and the peculiar character of the appendages of the spores are marked features in this species. The tomentum of the pustules and the large colored appendiculate spores indicate a relationship between this species and *Valsa hapalocystis*, and yet our plant belongs to the Section Euvalsa. The specific name has reference to the appendages of the spores.

Sphæria capillifera, *Curr.* Decaying wood. Portage. July. *Clinton*.

Cucurbitaria longitudinalis, *n. sp.* (Plate 2, figs. 23–26.) Perithecia .02 in. to .03 in. broad, subglobose, arranged in short lines in longitudinal chinks in the bark, black, pierced at the apex; asci cylindrical; spores uniseriate, four or five-septate, often with one or two longitudinal septa, colored, .0011 in. to .0013 in. long, .0004 in. to .0005 in. broad. Dead stems of the privet Andromeda, *Andromeda ligustrina*. Center. May.

Sphærella recutita, *Fr.* Dead leaves of carices, *Carex varia*. West Troy. May.

Sphærella depressa, *n. sp.* Perithecia numerous, minute, depressed or even concave when dry, black; asci oblong-clavate; spores simple, oblong-elliptical or subfusiform, colorless, .0005 in. to .0006 in. long. Dead stems of Mulgedium. Center. May. The perithecia are so much depressed that they resemble a minute Peziza in form. They are slightly papillate.

Sphærella conigena, *n. sp.* Perithecia minute, erumpent, black; asci broad, obovate or subclavate, somewhat pointed at the apex; spores oblong or subcylindrical, when mature uniseptate, .001 in. to .0016 in. long. Old cones of arbor-vitæ. Helderberg mountains July.

(5.)

REMARKS AND OBSERVATIONS.

Viola Selkirkii, *Pursh.* Plentiful in a pine grove near West Albany. The large pale blunt spur is a conspicuous feature in the flowers of this species.

Hypericum mutilum, *L.* A tall form, 12 to 15 in. high, with straight branches, occurs near Riverhead. Its cyme is leafy, and thus connects the variety *gymnanthum* with the typical form.

Linum striatum, *Walt.* Wet banks near Newburgh. July.

Hieracium venosum var. subcaulescens, *Gr.* A form of this plant with the veins of the leaves uncolored was found near Wading River. It was in full flower in September.

Lycopus Europæus var. sessilifolius, *Gr.* Near Riverhead.

Convolvulus arvensis, *L.* Fields near Newburgh.

Polygonum Hartwrightii, *Gr.* Flowering specimens were found on the shore of the "Green Lake" west of Jamesville. In all the specimens seen the peduncle was axillary, not terminal as in *P. amphibium.*

Quercus Phellos, *L.* Tottenville. *Britton.*

Potamogeton amplifolius, *Tuckm.* Thompson's Lake, Helderberg mountains, and near Warwick, Orange county.

Potamogeton gramineus var. heterophyllus, *Fr.* Thompson's Lake, also "Green Lake" near Jamesville. In low muddy places east of the latter lake it forms a dense carpet over the surface of the ground.

Potamogeton, Robbinsii, *Oakes.* Ballston Lake. July. Though the plants were abundant and the flowering spikes numerous, the stems being sometimes excessively branched above, no good fruit could be found. The plants grow at the head of the lake in company with *Potamogeton lonchites, P. perfoliatus, P. compressus, P. hybridus, P. Claytonii, P. pectinatus* and *Bidens Beckii.*

Triglochin palustre; *L.* Abundant in marshy ground near Manlius Center.

Hemerocallis fulva, *L.* Banks of streams in fields. Guilderland. Escaped from gardens, but thriving without cultivation.

Juncus maritimus *Lam.* This rush was found some years ago on Coney Island. Specimens were collected there again the past season by *Mr. N. L. Britton,* thus showing that it is still maintaining its foothold amid the march of improvement on that island.

Carex tentaculata var. altior, *Boott.* (*C. Purshii* Olney.) Charlton and North Greenbush.

Carex intumescens, *Rudge.* Helderberg mountains. A starved form with but one or two perigynia in a spike.

Scolopendrium vulgare, *Sm.* A rediscovery of this interesting fern was recently made by *Mrs. Barnes* and other members of the Syracuse Botanical Club, probably in the identical station where it was found by Pursh in 1807. Specimens collected in this locality by *Mrs. Leavenworth* were kindly contributed by *Mrs. M. J. Myers.* If we

regard the stations near Jamesville as one locality there are now three localities in the State where this fern is known to grow.

Botrychium Lunaria, *Sw.* A new station for this rare fern has been discovered near Syracuse, and specimens have been contributed by *Mrs. H. S. Gifford.*

Chara fœtida var. longibracteata, *A. Br.* This interesting variety of our common chara occurs in pools by the side of the railroad at Verona.

Chara fragilis, *Desv.* This and the preceding species abound in the "Green Lakes" of Onondaga county. On account of the clearness of the water, the plants are seen at a great depth and they give the green appearance that suggests the popular name of the lakes.

Fissidens grandifrons, *Brid.* Rivulets near Jamesville, but as usual the moss is sterile.

Cladonia papillaria, *Hoffm.* Sterile soil. Ballston. July.

Agaricus melleus, *Vahl.* This extremely variable species sometimes has a white pileus.

Agaricus virescens, *Pk.* I find that this name is preoccupied and substitute for it *Agaricus viriditinctus.*

Gomphidius rhodoxanthus, *Schw.* This plant has been thought by some to be the same as *Paxillus flavidus*, Berk., but it does not agree well with the description of that species. Neither does it agree fully with the characters of the genus *Gomphidius.* I do not find the pileus viscid, nor the lamellæ forked, though they are venose-connected. They do not readily separate from the pileus as in *Paxillus.*

Russula virescens, *Fr.* According to the description of this species the margin of the pileus should be even, but specimens sometimes occur in which the margin is wholly or partly striate. The number of forked and intermediate lamellæ is also variable and the warts are sometimes pale-brown instead of green. The color of the pileus is generally grayish-green but it is frequently tinged with yellow.

Panus stipticus, *Bull.* This usually occurs on trunks of deciduous trees, but occasionally it is found on hemlock trunks.

Lenzites betulina, *Fr.* Specimens of this species have been found on hemlock trunks. *Lenzites vialis* also occurs both on frondose and acerose trees, so that the division of the genus into two sections depending on the character of the habitat is scarcely reliable.

Polyporus igniarius, *Fr.* One specimen was found about one foot broad and having seventeen strata of pores, thus indicating an age of seventeen years.

Polyporus pergamenus, *Fr.* The typical form of this species, according to the description, has the pileus coriaceo-membranaceus, rigid, tomentose, concentrically sulcate, white; the pores seriately placed, pallescent and produced into very thin dentate plates. Its habitat is said to be pine, and its locality Arctic America. The species, as now understood, proves to be a very common and very variable one and includes several synonyms. In Ravenel's Fungi Car. Exsicc., Fasc. 1, No. 13, *Polyporus laceratus*, Berk., is represented to be a synonym of this species. Dr. Berkeley himself does not give it as a distinct species in his Notices of North America Fungi, though it was founded on specimens from New Orleans, from which we infer that he does not regard it as a good species. According to the description it scarcely

differs from *Polyporus elongatus*, Berk., except in its shape and its larger pores. The former difference is of little value for *P. elongatus* is known to vary very much in shape and size. But *P. elongatus*, according to authentic specimens received from *Dr. Michener*, can scarcely be regarded as any thing more than a mere form, or perhaps variety, of *P. pergamenus*. For of this species we have in this State two prevailing forms. One form has the pileus tomentose, concentrically sulcate and white, and its pores become paler with age and are at length produced or lacerated into thin dentate plates precisely as required by the description. But it differs from the type in generally, though not always, having the pileus too thick to be called membranaceous, and in the pores not being seriately placed. These slight differences, however, are of but little account in such a variable plant as ours is known to be, and there can be no doubt that it should be referred to *P. pergamenus*. The other form, which is more abundant even than the first, is generally thinner and less distinctly tomentose. Indeed, it is sometimes nearly or quite smooth, and it often appears to become smoother with age. Instead of being concentrically sulcate it is generally more or less marked with narrow delicate zones. There are also fine radiating lines or striations which are more perceptible in the smoother specimens. The color is generally grayish pallid or subochraceous. The pores are usually seriately placed, especially toward the margin, and though variable in color they are commonly tinged with purple when fresh and young, as in the preceding form. As in that form also they become paler with age. This is the form recently published under the name *Polyporus pseudopargamenus*, Thum. When the pileus is narrowed toward its base so that its length is greater than its breadth it is *Polyphorus elongatus*, Berk. It occurs on a great variety of deciduous trees, but is most frequent on birch, maple, oak and chestnut. The first form is most common on poplar though not limited to it. I have not found either growing on pine. These two forms run into each other by such insensible gradations that it is not possible to draw any satisfactory line of distinction between them, and therefore the conclusion must be that both are forms of one species, *Polyporus pergamenus*.

According to Berkeley and Curtis *Polyporus Menandianus*, Mont. also belongs to this species, thus making the synonymy include *P. laceratus*, Berk., *P. elongatus*, Berk., *P. Menandianus*, Mont., and *P. pseudopargamenus*, Thum. It may also be added that according to Berkeley and Curtis the specimens in the Schweinitzian Herbarium under the names *Polyporus abietinus* and *Polyporus stereoides* should be referred to *P. pergamenus*. This species sometimes revives to a certain extent the second season. It puts on a new hymenium and a new growth on the margin of the pileus. The same is true also of *Polyporus cinnabarinus*.

Polyporus vulgaris, *Fr.* The variety with pale yellow pores occurs on decaying maple wood at Verona. The yellow hue is generally lost in drying.

Polyporus splendens, *Pk.* This name proves to be preoccupied and I would therefore substitute for it *Polyporus subsericeus* Pk. For the same reason I would substitute *Polyporus guttulatus*, Pk., for *Polyporus maculatus*, Pk., *Polyporus flavidus*, Pk., is *P. Peckianus*, Cke.

Cheirospora botryospora, *Fr.* This species occurs with us on the beech, *Fagus ferruginea*, and the water beech, *Carpinus Americana*. In Europe it occurs also on the ivy.

Puccinia linearis, *Pk.*, On *Calamagrostis Canadensis*. Copake. The name being preoccupied it is changed to *Puccinia striatula*, Pk.

Uromyces solida, *B. & C.* Living leaves of *Desmodium rotundifolium*. Newburg. The name of this species proves to be inappropriate and the description very imperfect if we may rely on authentic specimens received from Dr. Curtis. It is scarcely possible to identify the species satisfactorily from the published description. The spores are not always "compact," but often quite lax. Neither are they always "obovate," but generally ovate or elliptical. The rough or verruculose epispore is a noticeable feature, yet it is not mentioned in the description. It is not surprising, therefore, that the species has recently been republished under a new name, *Uromyces Desmodii* Thum.

Roestelia lacerata, *Tul.* This fungus was recently detected by *Prof. D. S. Martin* growing in abundance on the living leaves of apple trees at Rogers Rock near Ticonderoga. An allied fungus, *Roestelia cancellata*, has also been found to attack the fruit of the quince.

Peridermium decolorans, *Pk.* This is considered by Baron Thumen in his "Blasenrost Pilze der Coniferen" to be a variety of *Peridermium abietinum*.

Peronospora alta, *Fckl.* Living leaves of English plantain, *Plantago lanceolata*. Verona.

Sphærella nigrita, *Cke.* This is not specifically distinct from *Sphærella spleniata*, C. & P., according to specimens received from *Mr. Gerard*.

NEW YORK SPECIES OF AMANITA.

"Spores white. Veil or *volva* universal, at first continuous distinct from the cuticle of the pileus. Hymenophorum distinct from the stem. *All terrestrial.*" *Hymen. Europ.* p. 17.

The Agarics which are grouped under the subgeneric name Amanita are distinguished from all others by their white spores and their universal veil distinct from the pileus. In the subgenus Volvaria there is a similar veil or volva, but the spores are rosy or pinkish-colored. By some authors the species of these two subgenera have been united under the common name Amanita, but even in this case it was found convenient to separate them into two sections, depending on the color of the spores. Some mycologists have regarded the species of Amanita as worthy of generic distinction, and have separated them from the Agarics as a distinct genus. But by those species whose volva is evanescent they approach so closely to other subgenera that it is difficult to maintain this position unless we also raise the other subgenera to the same rank. The differences between the subgenera are so slight that this has not seemed advisable to the most eminent mycologists; and yet the species of Agarics are already so numerous that it is very difficult to find appropriate unoccupied specific names for the new ones

frequently discovered, and some mode of relief in this respect is exceedingly desirable.

The species of Amanita grow on the ground in the woods, groves and copses. They rarely occur in open fields, unless in the vicinity of trees or near the margin of woods. Thin, open woods and copses afford the most favorable localities. In the early condition the plant is wholly enveloped in its volva, but as it increases in size the volva is necessarily ruptured. In some species, *A. cæsareus*, for example, the volva is distinctly membranous, and includes the young plant as if in an oval sack. At length the upper part of the volva is ruptured, and the pileus and stem are exserted. Sometimes one or more irregular and unequal fragments of the ruptured volva adhere to the surface of the pileus for a time, and are carried up by it in its growth. But usually in these species the surface of the pileus is smooth, and the remains of the ruptured volva wholly adhere to the base of the stem or its bulb like a membranous margin, a sheath or a lacerated cup. In other species the volva is not distinctly membranous, but is more floccose or scaly and friable in its character. It envelops the young plant, but the distinction between the pileus and bulbous base of the stem is soon manifest, and as the stem elongates the upper part of the volva is separated from the lower part, and persistently adheres to the surface of the pileus. As this expands its covering or calyptra breaks up into superficial scales or warts. These are often angular or pyramidal in form, and sometimes unlike the pileus in color, and afford a beautiful ornamentation. The part that remains at the base of the stem often breaks up into mealy or floccose scales, and sometimes wholly disappears when the plant matures. Generally a smooth pileus indicates a perfect membranous volva, and a warty one an imperfect, floccose or evanescent one. Sometimes, especially after heavy rains, specimens, which normally have the pileus warty, are found with a smooth pileus; but these are only occasional, and probably mostly accidental cases, the warts having been washed off by the rain. Most of the species are solitary or gregarious and of moderate or large size. The pileus, when fully expanded, is nearly plane and quite regular, so that these Agarics are among the most noble and attractive in their appearance. Many of them have a thin pellicle or cuticle, which, in the young and moist plant, is slightly viscid.

The lamellæ in nearly all the species are white or whitish, and free from the stem. Usually they are narrowed toward the stem, and cease just before reaching it, thus leaving a small free space around its apex. In many species the short ones that intervene between the long ones are abruptly terminated at their inner extremity, as if truncated or cut square off. The stem is usually rather long and well formed, and in most species is more or less thickened or bulbous at the base. In some species it is hollow or stuffed with cottony fibrils; in others it is solid. In the greater number of species it is furnished with a membranous ring or annulus, that surrounds it near the top like a flabby collar. In the young plant this is stretched from the stem to the margin of the pileus, and wholly conceals the lamellæ. As the pileus expands the annulus breaks loose from its attachment to the margin, and remains adhering to the stem. In some species this rupture is not always clean and even, small portions remaining at-

tached to the margin. The annulus then has a lacerated or torn appearance. The species are readily divided into two primary sections, depending on the presence or absence of the annulus. The species having an annulus have been again divided by Fries into subsections, depending on the character of the volva. These are thus characterized:

1. Volva rupturing at the apex or circumscissile, the free margin persistent. Of our species *A. cæsareus*, *A. spretus* and *A. phalloides* belong to this subsection.

2. Volva definitely circumscissile, persistent on the margined base, the covering of the pileus broken up into thick warts. Here belong *A. russuloides*, *A. muscarius*, *A. Frostianus*, *A solitarius* and *A. strobiliformis*.

3. Volva wholly friable, reduced to scales and warts. Our only representative of this subsection is *A. rubescens*.

4. Volva wholly obsolete, flocculose, entirely evanescent. Of this subsection we have thus far no representative.

The second and third sub-sections appear to run into each other in such a way that it is difficult to keep them distinct.

In collecting specimens for examination, the earth should be carefully removed from the base of the stem before the plant is taken up, in order to obtain it entire and to secure the volva in as perfect condition as possible. Young plants taken just as the pileus is emerging from the volva, if kept in a warm, moist atmosphere, will continue to elongate the stem and expand the pileus.

The characters especially to be noted in the determination of the species are found in the volva, whether membranous and persistent or floccose-scaly, and more or less evanescent; in the pileus, whether smooth and naked or warty, and whether even or striated on the margin; in the stem, whether with or without an annulus, whether solid or hollow and whether with or without a bulb at the base, and if bulbous what is the character of the bulb. The color, though a conspicuous character, is so variable in some species that it is deemed of secondary importance. The spores, beyond their color, can only be available in affording distinctive characters by the aid of a compound microscope and a micrometer.

Some of the species have a very bad reputation for their deleterious and poisonous qualities, but a few are generally admitted by authors to be esculent. I have not personally tested the edible qualities of any of the species, and those indicated as edible are thus given on the authority of others. I do not consider it safe for any one who is not fully able to distinguish the edible from the poisonous species to indulge in the use of the Amanitas for food.

SYNOPSIS OF THE SPECIES.

1. Stem furnished with an annulus..... 2
2. Volva membranous, persistent; pileus not warty..... 3
   3. Pileus widely striate on the margin, lamellæ yellow.... *A. cæsareus.*
   3. Pileus narrowly striate, lamellæ white..... *A. spretus.*
   3. Pileus even on the margin, lamellæ white..... *A. phalloides.*
2. Volva squamose, friable, sometimes evanescent..... 4
   4. Pileus striate on the margin..... 5
      5. Pileus widely striate, warts soon disappearing..... *A. russuloides.*

5. Pileus narrowly striate..... 6
6. More than two inches broad, spores elliptical... *A. muscarius.*
6. Less than two inches broad, spores globose..... *A. Frostianus.*
4. Pileus even on the margin..... 7
7. Flesh with reddish stains when wounded..... *A. rubescens.*
7. Flesh without reddish stains when wounded..... 8
8. Bulb of the stem acutely margined, often split.. *A. strobiliformis.*
8. Bulb not acutely margined..... *A. solitarius.*
1. Stem destitute of an annulus..... 9
9. Volva membranous 10
10. Pileus hairy-squamulose, volva large, firm. ..... *A. volvatus.*
10. Pileus soon glabrous, volva sheathing, flabby. ..... *A. vaginatus.*
9. Volva not membranous 11
11. Pileus soon glabrous..... *A. nivalis.*
11. Pileus warty.. ..... *A. strangulatus.*
11. Pileus pulverulent..... *A. farinosus.*

STEM FURNISHED WITH AN ANNULUS.

Agaricus cæsareus, *Scop.* Orange Agaric. Pileus hemispherical, then expanded, smooth, bright red or orange, fading to yellow, widely and *distinctly striate on the margin;* lamellæ free, *yellow;* stem equal or slightly tapering upward, floccuIose, stuffed with cottony fibrils or hollow, yellowish, bearing a yellowish annulus near the top and inserted at the base in a *large loose membranous white volva;* spores elliptical, .00035 in. to .0004 in. long.

Plant 5 in. to 8 in. high, pileus 4 in. to 8 in. broad, stem 4 lines to 6 lines thick. August.

This is a large, beautiful and very showy Agaric and has been called "*Fungorum princeps,*" chief of fungi. It occurs in wet seasons in thin open woods, but is not very common. It sometimes grows in large circles or "fairy rings." The American plant differs in some slight respects from the European as represented in figures and descriptions, and I have modified the description to meet the peculiarities of our plant. In Europe the pileus is said to vary in color, being sometimes white, pale-yellow, red and copper-colored, though usually orange-yellow. In our plant I have found the pileus very uniform in coloration, it being at first bright-orange or even a brilliant red, fading with age to yellow, either wholly or on the margin only. In dried specimens the red color entirely disappears. The striations of the margin are quite deep and long, and almost as distinct as in *A. vaginatus,* where they are said to be "pectinate-sulcate." The flesh is represented as yellowish. In our plant it may be white, yellow or red under the cuticule, but next the lamellæ it is pretty constantly yellow. The stem is described as subventricose. In our plant I have always found it equal or slightly tapering upwards and generally rather long in proportion to the size of the pileus, so that the American plant must have a more graceful aspect than the European. The stem is yellowish, but adorned with delicate floccose fibrils of a yellowish-rhubarb color. The annulus is also sometimes tinged with this hue. The volva is soft and almost tomentose in texture, yet distinctly membranous, persistent and white. The lamellæ are yellow, a character by which it is at once distinguished from all our other species. All authors agree in attributing esculent qualities to this fungus. It has been termed "*Cibus Deorum,*" the food of the gods. Cordier says it is delicious and everywhere sought after, but utters a caution against confounding it with

the "False Orange" or Fly Agaric, *Agaricus muscarius*. *Agaricus aurantius* Bull. and *Amanita aurantia*, Pers., are given as synonyms.

Agaricus spretus, *Pk.* Despised Agaric. Pileus subovate, then convex or expanded, smooth or at first adorned with a few fragments of the volva, *slightly striate on the margin*, whitish or pale-brown; lamellæ close, *reaching the stem*, *white*; stem equal, smooth, slightly pruinose above the white annulus, stuffed or hollow, whitish, finely striate at the top, inserted at the base in the rather large *persistent membranous somewhat sheathing volva*; spores elliptical, .0004 in. to .0005 in. long, .00025 in. to .0003 in. broad, generally containing a single large nucleus.

Plant 4 in. to 6 in. high, pileus 3 in. to 5 in. broad, stem 4 lines to 6 lines thick. August.

This species occurs in bushy or open places and seems to prefer a dry gravelly or sandy soil. It is not common. It sometimes grows in clusters and then has the pileus more or less irregular. The striations of the margin of the pileus are rather short and not always deep and distinct. The lamellæ reach the stem and form little decurrent lines at its apex. The stem is without any bulb at its base, which is more or less sheathed by the persistent volva much as in *A. vaginatus*. In light sandy soil the stem penetrates the earth quite deeply. The whole plant is sometimes white, but often the pileus and stem are tinged with brown. It appears to be related in some respects to *A. porphyrius* and *A. recutitus*, but it differs from both in its coloration and in other characters.

Agaricus phalloides, *Fr.* Phallus-like Agaric. Pileus at first ovate or subcampanulate, then expanded, slightly viscid when young and moist, smooth or rarely adorned by a few fragments of the volva, *even on the margin*, white, yellowish-brown or blackish-brown; lamellæ rather broad, rounded behind, free, white; stem equal or slightly tapering upward, stuffed or hollow, smooth or slightly floccose, annulate, *bulbous*, the ruptured volva either appressed loose or merely forming a narrow margin to the bulb; spores *globose*, .0003 in to .00033 in. broad.

Plant 4 in. to 8 in. high, pileus 2 in. to 5 in broad, stem 3 to 6 lines thick. Summer and Autumn.

This species is common and variable. It occurs everywhere in woods and assumes such different colors that the inexperienced mycologist is apt to mistake its different forms for distinct species. With us the prevailing colors of the pileus are white, yellowish-white, grayish-brown and blackish-brown. It is remarkable that the form with a greenish pileus, which seems to be common enough in Europe, does not occur here. Fries also mentions a form having a white pileus with a black disk. A somewhat similar form occurs here, in which the pileus is grayish-brown with a black disk. Some of the variously-colored forms were formerly taken to be distinct species, in consequence of which several synonyms have arisen, of which *A. virescens*, Fl. Dan., *Amanita viridis*, Pers., and *Amanita citrina*, Pers., are examples. *A. vernus*, Bull., is a variety having a white pileus, a rather thick annulus and an appressed volva. It sometimes occurs early in the season; hence the specific name. It also occurs late in the season and runs into the typical form so that it is not easy to keep it distinct. The flesh and the lamellæ are white, the stem is white, pallid or brownish, and the annulus is either white or brownish. The bulb is generally very broad

and abrupt or depressed, though it sometimes is small and approaches an ovate form. The large bulbs are sometimes split externally in two or three places and are, therefore, two or three-lobed. In such cases the volva is less persistent than usual and its free portion then furnishes merely an acute edge or narrow margin to the bulb. Specimens sometimes occur in which the margin of the pileus is narrowly adorned with a slight tomentose villosity, but usually it is perfectly smooth and even. By this character taken in connection with the membranous volva and bulbous base of the stem, the species is readily distinguished. Sometimes a strong odor is emitted by it, but usually the odor is slight. Authors generally pronounce this a poisonous and very dangerous species. Its appearance is attractive, but its use as food is to be avoided.

Agaricus russuloides, *Pk.* Russula-like Agaric. Pileus at first ovate, then convex or expanded, at first rough with a few superficial warts, *soon smooth*, viscid when moist, *widely striate-tuberculate on the margin*, pale-yellow or straw color; lamellæ close, free, narrowed toward the stem, white; stem firm, smooth, stuffed, equal or slightly tapering upward, bulbous, furnished with a thin subevanescent annulus; *volva fragile*, subappressed; spores broadly elliptical, .0004 in. long, .0003 in. in. broad.

Plant 2 in. to 3 in. high, pileus 1.5 in. to 2 in. broad, stem 3 lines to 5 lines thick. June.

This rare species was found in grassy places in open woods, several years ago, and has not been met with by me since. It is remarkable for and easily known by the widely striate margin of the pileus. The tuberculate appearance is due to short transverse veins or wrinkles which intervene beween and connect the lamellæ and give to the surface of the pileus an appearance similar to that seen in many species of Russula. The dried specimens look very much like small dried forms of *A. cæsareus*, but they have not the perfect volva of that species. The bulb is ovate and the volva fragile and easily broken into fragments. Its nearest relationship is with *A. muscarius*, from which its smoother pileus and peculiar margin at once distinguish it.

Agaricus muscarius, *L.* Fly Agaric. Pileus at first ovate or hemispherical, then broadly convex or nearly plane, slightly viscid when young and moist, *rough with numerous whitish or yellowish warts*, rarely smooth, narrowly and *slightly striate on the margin*, white, yellow or orange-red; lamellæ white; stem equal or slightly tapering upward, stuffed with webby fibrils or hollow, bearing a white annulus above, *ovate-bulbous* at the base, white or yellowish; the volva usually breaking up into scales and adhering to the upper part of the bulb and the base of the stem; spores *elliptical*, .0003 in. to .0004 in. long, .00025 in. to .0003 in. broad.

Plant 5 in. to 8 in. high, pileus 3 in. to 6 in. broad. June to October.

The Fly Agaric, or "False Orange" as it is called in France, is a common and variable species. It occurs in thin open woods and in bushy pastures. The fine ornamentation of its warts and its beautiful colors make it a very showy and attractive species. I have not seen it with the bright blood-red or scarlet colors attributed to the European plant, but it is usually more or less orange-colored when young, fading to yellow with advancing age, either wholly

or on the margin only. Sometimes the fading process goes on until the pileus is nearly white. In one variety the pileus is of a uniform citrine or lemon-yellow color, in another it is wholly white. This form I suspect is the same as *A. subremotus*, B. & C. The margin is narrowly and usually but slightly striate. Sometimes, especially after heavy rains, it is not uncommon to find specimens almost or entirely destitute of warts and even of the fragments of the volva at the base of the stem. The flesh under the cuticle is not always yellow. It may be either white or orange according to the color exhibited by the pileus. The lamellæ are sometimes faintly tinged with a yellowish or creamy hue. The stem also, which is usually white, may be occasionally tinged with yellow. The remains of the volva often encircle it at the base in a somewhat concentric manner. The varieties already mentioned may be characterized thus:

Var. *formosus* (Amanita formosa, G. & R.) Pileus soft, fragile, citrine-yellow, warts loose, white or yellowish. Var. *albus*. Pileus white, warts rather firm, subacute. Var. *regalis*, a large form with a liver-colored pileus, and Var. *umbrinus* with a thin, brown or livid pileus and dark-brown disk I have not seen.

The species is renowned for its intoxicating and poisonous properties. Cordier states that it is one of the most active poisons and has caused numerous accidents by being mistaken for the Orange Agaric. A kind of fly poison is sometimes manufactured from it. If a moist plant be placed where flies have access to it they will sip the viscid substance from the surface of the pileus and pay the penalty with their lives. I have seen it surrounded by a circle of dead flies thus destroyed.

Agaricus Frostianus, *Pk.* Frost's Agaric. Pileus convex or expanded, bright-orange or yellow, warty, sometimes nearly or quite smooth, striate on the margin; lamellæ free, white or slightly tinged with yellow; stem white or yellow, stuffed, bearing a slight, sometimes evanescent, annulus, bulbous at the base, the bulb *slightly margined* by the volva; spores *globose* .0003 in. to .0004 in. in diameter.

Plant 2 in. to 3 in. high, pileus 1 in. to 2 in. broad, stem about 2 lines thick. June to October.

This appears like a very small form of the Fly Agaric, to which, as var. *minor*, it was formerly referred. The only decided characters for distinguishing it are its small size and globose spores. Relying mainly on the latter I have hesitatingly admitted it as a species. It should yet be compared with *Amanita puella*, G. & R., which Fries regards as a mere form of *A. muscarius*, characterizing it with the words "smaller, without warts." It is also near, *A. gemmatus* Fr., but that is described as having a solid exannulate stem. Mr. Frost's manuscript description says "not often warty," but I have nearly always found it more or less warty. The specific name "affinis" which was given to this species by Mr. Frost, has been more than once used, in connection with other species, and it seems best to substitute another for it. Our plant sometimes grows in company with *A. muscarius*, but it seems to prefer more dense woods, especially mixed or hemlock woods. It is generally very regular and beautiful and has the stem quite often of a yellow color, and the bulb margined above with a collar-like ring.

Agaricus rubescens, *Pers.* Reddish Agaric. Pileus at first ovate, then broadly convex or nearly plane, *warty*, slightly viscid when young

and moist, even or substriate on the margin, whitish, reddish-brown or brown; lamellæ reaching to the stem toward which they are narrowed, white; stem equal or slightly tapering upward, squamulose, stuffed or hollow, thickened or bulbous at the base, slightly striate at the top, annulate, whitish or pallid; *flesh becoming reddish where wounded;* spores elliptical, .0003 in. to .00035 in. long, .0002 in. to .00025 in. broad.

Plant 4 in. to 6 in. high, pileus 3 in. to 5 in. broad, stem 4 lines to 6 lines thick. July to September.

This Agaric occurs both in thin and in dense woods. It is solitary or scattered in its mode of growth. The pileus is generally adorned with soft, easily removable, whitish or reddish-stained warts, but as in other species, it is not unusual after heavy rains to find specimens with the pileus entirely naked. The margin of the pileus is generally even, but sometimes specimens are found in which it is slightly striated. It is also in this, as in all the other species, sometimes split in one or more places. The color is quite variable and is generally somewhat sordid and undecided in character. It is whitish, alutaceous, pinkish-brown, yellowish-brown or reddish-brown. The flesh is white and generally becomes reddish where bruised or wounded, especially in warm wet weather. Reddish stains are usually found on the stem or lamellæ, being the result probably of the bites of insects. They are not always readily produced at will in the American plant. Sometimes the little branny scales that clothe the stem are colored red. The base of the stem is thickened or bulbous, but the bulb is ovate or gradually tapering into the stem, and not abrupt and distinct as in *A. phalloides*. The volva is wholly friable and often entirely disappears from the base of the stem or bulb.

A. circinatus, Schum., is regarded by Fries as a variety of this species, distinguished by its plane brownish-red pileus and numerous adnate circinating warts. *A. verrucosus*, Bull., is a mere form with minute warts and flesh slowly changing to red.

One author places this Agaric among the suspected species. Berkeley says of it, "Quality doubtful," while most authors, including Badham, Rogues, Currey, Cooke and Curtis, pronounce it esculent. Cordier says it is a most delicate food, of which large quantities are consumed in Lorraine.

Agaricus solitarius, *Bull.* Solitary Agaric. Pileus convex or plane, *warty*, white or whitish, *even on the margin;* lamellæ reaching the stem, white or slightly tinged with cream-color; stem at first mealy or scaly, equal, *solid*, white, bulbous, the bulb scaly or mealy, *narrowed below into a root-like prolongation; annulus lacerated*, often adhering in fragments to the margin of the pileus and lamellæ; spores elliptical-oblong, .0003 in. to .0005 in. long, .00025 in. broad.

Plant 4 in. to 8 in. high, pileus, 3 in. to 6 in. broad, stem 4 lines to 6 lines thick. August and September.

The Solitary Agaric grows singly or very much scattered in thin woods and open places. It is generally white throughout, though sometimes the pileus is tinged with brown and the warts are a little ochreous or brownish. In some specimens they are few and scattered, but generally they are numerous, crowded, angular and often erect and acute, especially on the disk. There are two forms of the species. In one, the volva breaks up into brownish scales which adorn the bulb

and lower part of the stem. In the European plant these scales are said to be imbricating. I have not found this form in our State, but it occurs farther south. In the other, the bulb and lower part of the stem are covered with white mealy or granular particles. This form occurs on Long Island. The annulus also and the upper part of the stem, when young, are covered with floccose or mealy particles. The former is soon lacerated and a part of it frequently adheres to the margin of the pileus and the edge of the lamellæ. Sometimes there is very little of it left to form a ring on the stem. This lacerated annulus and the peculiar deeply-rooting bulb are marked and distinguishing features in this species. *A. echinocephalus*, Vitt., is apparently a closely-related species, but is characterized as having a shining pileus with pyramidal acute receding warts and a distant persistent annulus. The lamellæ are also said to become green. *A. albellus*, Scop., and *Aminata pellita*, Secr., are regarded by Fries as synonyms.

Authors are divided in their estimate of the qualities of this fungus, one saying that it is very poisonous, another, that it is scarcely edible, and another, that its flesh is white and of an excellent flavor. In any case it is too scarce with us to be of much value.

Agaricus strobiliformis, *Vitt.* Fir-cone Agaric. Pileus convex or nearly plane, *rough with angular supersistent warts*, white or cinereous, sometimes yellow on the disk, the margin even and extending a little beyond the lamellæ; lamellæ free, rounded behind, not reaching the stem, equal or slightly tapering upward, *solid*, floccose-scaly, white, bulbous, *the bulb very large, margined above and furnished with one or two concentric furrows*, somewhat pointed below, floccose mealy when young; spores elliptical, .0005 in. to .0006 in. long, .0003 in. to .0004 in. broad.

Plant 6 in. to 10 in. high, pileus 6 in. to 10 in. broad, stem 2 lines to 15 lines thick. Autumn.

This Agaric, which usually attains a very large size, is quite rare with us. It is generally of a white or whitish color, but sometimes yellowish on the disk, and it has the pileus rather thickly studded with firm angular mostly persistent warts which are often flattened at the top in such a way as to resemble somewhat the scales of a pine cone, whence the specific name. They are generally whitish though sometimes tinged with brown. In some instances they fall away and leave the pileus nearly smooth. The annulus is large, and as in the preceding species is often torn or lacerated. The bulb at the base of the stem is one of the peculiar and distinguishing features of the species. It is very large, sometimes attaining a diameter of two and a half inches, and at the upper part a slight furrow intervenes between its narrow margin and the stem, as if produced by the impressed margin of the young pileus. Sometimes a second furrow surrounds the bulb a little below this, and below the second furrow the thick exterior coat of the bulb is split longitudinally in several places, thus giving it a lobed appearance. The larger part of the bulb often appears above the surface of the ground, but it is somewhat pointed or conical below and thus slightly penetrates the earth, but it has not the long distinct tap root that so strongly characterizes the preceding species. All traces of the volva soon disappear from the bulb. The plant formerly referred to *A. muscarius* as variety *major* is to be referred to this species. The solid

stem and even margin of the pileus separate this species from white forms of *A. muscarius*. Authors generally agree in calling it an edible species.

STEM DESTITUTE OF AN ANNULUS.

Agaricus volvatus, Pk. Volvate Agaric. Pileus convex, then nearly plane, *slightly striate on the margin, hairy or floccose-scaly*, white or whitish, the disk sometimes brownish, lamellæ close, free, white; stem equal or slightly tapering upward, stuffed, minutely floccose-scaly, whitish, inserted at the base in *a large, firm, cup-shaped, persistent volva;* spores *elliptical*, .0004 in. long, .0003 in. broad.

Plant 2 in. to 3 in. high, pileus 2 in. to 3 in. broad, stem 3 to 4 lines thick. July and August.

This species is quite rare. It grows in woods and open places and is easily distinguished from all others by the absence of the annulus and the presence of the large somewhat cup-shaped persistent volva. The pileus is not smooth as is usually the case in the species with a persistent membranous volva, but is more or less scaly with minute tufts of fibrils or tomentose hairs. Sometimes the margin is not very distinctly striate. The color varies from white to brownish. The lamellæ, which are white in the fresh plant, in the dried specimens assume a dull cinnamon-brown hue, except on the edge which remains white and is more or less floccose. *A volvaceus*, Bull., has a similar volva, but its spores and lamellæ are pinkish or flesh-colored and it belongs, therefore, to the subgenus Volvaria.

Agaricus vaginatus, *Bull.* Sheathed Agaric. Pileus at first ovate or subcampanulate, then convex or nearly plane, *smooth*, rarely adorned with a few fragments of the volva, slightly viscid when young or moist, *deeply and distinctly striate on the thin margin*, very variable in color; lamellæ free, white or whitish; stem rather slender, equal or slightly tapering upward, stuffed or hollow, fragile, nearly smooth or minutely mealy-squamulose, *not bulbous;* surrounded at the base by the more or less elongated *sheathing flabby volva;* spores *globose*, shining, .0003 in. to .0004 in. in diameter.

Plant 4 in. to 7 in. high, pileus 2 in. to 4 in. broad, stem 3 lines to 4 lines thick. Woods and copses, sometimes on much decayed wood. June to October.

This, like our other common species *A. muscarius* and *A. phalioides* is very variable. The pileus is generally smooth, but sometimes, especially in young plants, it is adorned with one or more irregular fragments of the volva. The thin margin is rather widely striate and the striæ are so deep and distinct that the margin has sometimes been described as "sulcate" and "pectinate-sulcate." The prevailing colors are grayish-brown, livid-brown and tawny or ochery-brown with their intermediate shades. The flesh and lamellæ are white or whitish, and the stem is generally paler than the pileus. Both it and the pileus are somewhat fragile and the plant is easily broken unless handled with care. The pileus is sometimes slightly prominent or umbonate in the center, but it is nearly plane and quite regular. In very wet weather this and many other species sometimes have the margin a little raised or reflexed so that the pileus appears concave or depressed in the center. The volva is so fragile that unless care is taken in gathering the

specimens it does not adhere to the base of the stem but is left in the ground. In appearance this species is rather slender and regular, in mode of growth it is solitary or very much scattered. It grows in woods either dense or thin and sometimes in open places, and it seems to be able to accommodate itself to a great variety of circumstances. As it often happens, the variability of this species has given rise to numerous synonyms, which are mostly indicative of its various colors. Among these may be mentioned *A. plumbeus*, Shæff., *A. hyalinus*, Schæff., *A. badius*, Schæff., *A. fulvus*, Schæff., *A. trilobus*, Bolt., *A. pulvinatus*, Bolt., *Amanita livida*, Pers., and *Am. spadicea*, Pers. Some authors class this among the edible species, others, among the suspected or doubtful ones. Cordier pronounces it a delicate food.

Agaricus nivalis, *Grev.* Snowy Agaric. Alpine Agaric. Pileus at first ovate, then convex or plane, smooth, *striate on the thin margin*, *white*, sometimes tinged with yellow or ochraceous on the disk, flesh white; lamellæ subdistant, white, free; stem equal, rather tall, nearly smooth, *bulbous*, stuffed, white, the volva very fragile, *soon breaking up into fragments or sometimes persisting in the form of a collar-like ring at the upper part of the bulb*; spores globose, .0003 in. to .0004 in. in diameter.

Plant 4 in. to 6 in. high, pileus 2 in. to 3 in. broad, stem 2 to 4 lines thick. July to October.

This fungus has generally been considered a mere variety of the preceding, from which, according to the "English Flora," it differs merely in the "greater distance of the lamellæ and the greater compactness of the stem." But in the American plant, which seems to me to be the same specifically, I find two other notable points of distinction, namely, the more frail fragmentary volva and the distinctly bulbous base of the stem. This last character is also noticed in Greville's description, and it has especially influenced me to keep the species distinct. In its original locality its habitat is said to be "highland pastures and summits of mountains." With us it occurs in open, grassy places and in thin woods, but it is not common. I have seen it in the counties of Essex, Rensselaer and Otsego. It approaches in some respects, *A. Frostianus*, but its larger size, smooth pileus, lighter color and the absence of an annulus will easily distinguish it from that species. *A. fungites*, Batsch, is given as a synonym of this species.

Agaricus strangulatus, *Fr.* Strangulated Agaric. Pileus at first ovate or subelliptical, then campanulate, convex or plane, *warty*, slightly viscid when moist, *deeply and distinctly striate on the margin*, grayish-brown; lamellæ free, close, white; stem equal or tapering upwards, stuffed or hollow, nearly smooth, white or whitish, *the vlova soon breaking up into scales or subannular fragments*; spores globose, .0004 in. to .0005 in. in diameter.

Plant 4 in. to 6 in. high, pileus 2 in. to 4 in. broad, stem 3 lines to 6 lines thick. July.

This plant was found in 1869 growing in the grassy borders of a grove near Greenport, Long Island. I have not since found it, and conclude that it is a very rare species with us. In color and general appearance it resembles *A. vaginatus*, from which it may be distinguished by the warty pileus and the slight volva which does not sheath the base of the stem, but soon breaks up into small fragments, or scales, which sometimes

form a sort of ring around the base of the stem, but which oftener remain as scales or disappear entirely. The warts of the pileus are often very numerous, persistent and close, especially on the disk, but sometimes they nearly all disappear, leaving the resemblance to *A. vaginatus* very close. They are dingy-gray or mouse-colored. The stem usually tapers upward and is adorned with minute branny scales or with a sort of mealiness, especially on the upper part. This species was described by Berkeley and Broome under the name *A. Ceciliæ*, but Fries considers it the same as his *A. strangulatus*. Our plant has globose spores, while the spores of *A. Ceciliæ* are described in the Handbook of British Fungi as "oval, .00034 by .0006 in.," a discrepancy which I am unable to explain. Neither is the application of the specific name *strangulatus* clear.

Agaricus farinosus, *Schw.* Mealy Agaric. Pileus nearly plane, thin, *flocculent-pulverulent, widely and deeply striate on the margin*, grayish-brown or livid-brown; lamellæ free, whitish; stem whitish or pallid, equal, stuffed or hollow, mealy, *subbulbous*, the volva *flocculent-pulverulent*, evanescent; spores variable, *elliptical ovate* or *subglobose*, .00025 in. to .0003 in. long.

Plant about 2 in. high, pileus 1 in. to 15 lines broad, stem 1 line to 3 lines thick. July to September.

This is our smallest Amanita. It is neither very common nor very abundant when it does occur. The pileus is generally grayish-brown or mouse-colored, though specimens sometimes occur that are almost white. The striations of the margin are long and generally distinct. The dusty flocculent covering is grayish-brown and usully most dense on or near the center of the pileus. It is this that suggests the specific name and affords a good distinguishing character for the species, which might otherwise be easily mistaken for a diminutive form of *A. vaginatus*. The lamellæ are sometimes uneven or floccose on the edge, which gives them a serrated appearance. Toward the outer extremity they are somewhat venosely connected in the interspaces as in *A. russuloides*. The stem is whitish and more or less mealy, with a slight bulb at the base which is at first clothed like the pileus. It is described by Schweinitz as "solid," but I have always found it stuffed or hollow.

Two other species of Amanita have been published by *E. C. Howe*, M. D., of Yonkers, under the names *A. onustus* and *A. soleatus*. No locality is added to the descriptions, but they are presumably of this State. I have seen no specimens of these species, but the description of the latter indicates that it is the same as *A. volvatus*. I have therefore deemed it best to omit them, until we have more definite information concerning them.

In the preceding pages, when no name is added to the station or stations mentioned, the plant has been found therein by the writer. Dates signify the time when the specimens were collected, and therefore indicate, to some extent, the time of the occurrence of the plant. Grateful acknowledgments are rendered to those Botanists whose names appear in the preceding pages, and who have kindly aided me by contribution of notes and specimens.

Very respectfully submitted,

CHARLES H. PECK.

ALBANY, *January* 7, 1880.

EXPLANATION OF PLATE I.

Convexum pustulatum *Peck.*

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Fig. 1. Piece of a branch bearing the fungus in pustules.
Fig. 2. One immature and three mature spores in position x 400.
Fig. 3. Two free spores x 400.

Asterosporium betulinum *Peck.*

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Fig. 4. Piece of a branch bearing the fungus in pustules.
Fig. 5. One immature and two mature spores x 400.

Sysphragmidium effusum *Peck.*

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Fig. 6. A piece of wood bearing a patch of the fungus.
Fig. 7. Mycelium with two rudimentary spores x 400.
Fig. 8. A spore with the series of cells adhering to each other x 400.
Fig. 9. A spore with the series of cells separating from each other x 400.
Fig. 10. A single separated series of cells separating from each other x 400.

Torula uniformis *Peck.*

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Fig. 11. A piece of bark bearing tufts of the fungus.
Fig. 12. Two clusters of flocci x 400.
Fig. 13. Two flocci united at the base x 400.

Microstroma leucosporum *Niessl.*

Page 30.

Fig. 14. Part of a leaflet bearing small patches of the fungus.
Fig. 15. Vertical view of a spore mass x 400.
Fig. 17. Lateral view of a spore mass x 400.
Fig. 17. Five spores x 400.

Cantharellus brevipes *Peck.*

Page

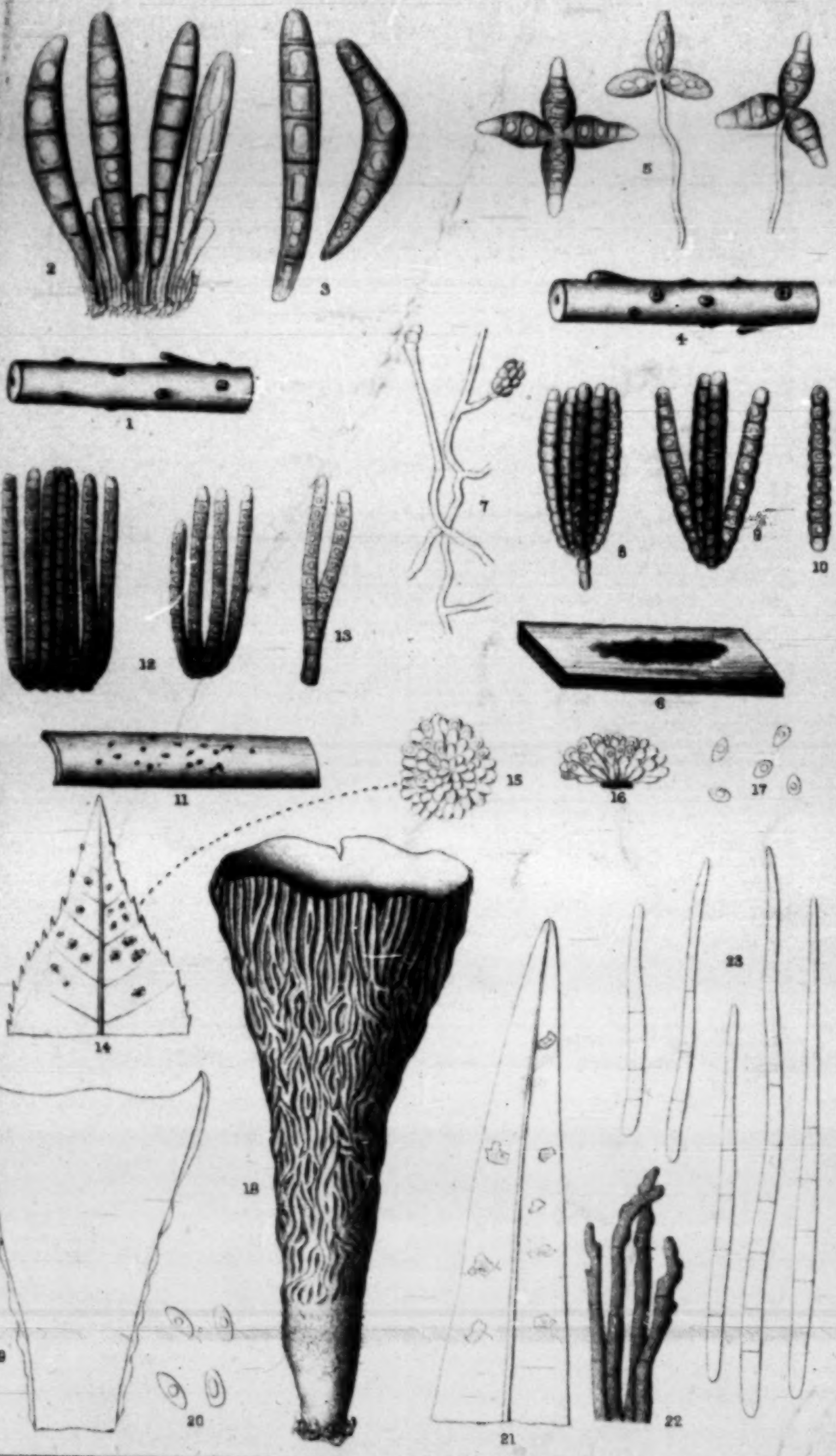
Fig. 18. A small plant.
Fig. 19. Vertical section of a pileus.
Fig. 20. Four spores x 400.

Cercospora elongata *Peck.*

Page 29.

Fig. 21. Part of a leaf bearing the fungus in angular spots.
Fig. 22. A tuft of flocci x 400.
Fig. 23. Five spores x 400.

FUNGI.



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EXPLANATION OF PLATE II.

*CERCOSPORA SMILACIS *Thum.*
Page 29.

FIG. 1. A leaf bearing the fungus in orbicular spots.
FIG. 2. A tuft of flocci x 400.
FIG. 3. Three spores x 400.

HELICOSPORIUM CINEREUM *Peck.*
Page 28.

FIG. 4. A piece of wood bearing a patch of the fungus.
FIG. 5. Mycelium and part of three flocci x 400.
FIG. 6. One spore partly uncoiled and two spores coiled x 400.

PATELLARIA HAMAMELIDIS *Peck.*
Page 32.

FIG. 7. A piece of bark bearing the fungus.
FIG. 8. Two receptacles magnified.
FIG. 9. A paraphysis and an ascus containing spores x 400.
FIG. 10. Four spores x 400.

CALICIOPSIS PINEA *Peck.*
Page 33.

FIG. 11. A piece of bark bearing the fungus.
FIG. 12. One mature and two immature plants with a cluster of sphæriform bodies at the base, all magnified.
FIG. 13. Two asci containing spores x 400.
FIG. 14. Five spores x 400.
FIG. 15. Five spermatia x 400.

HELVELLA PALUSTRIS *Peck.*
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FIG. 16. A young plant.
FIG. 17. A mature plant.
FIG. 18. A paraphysis and an ascus containing spores x 400.

VALSA ACROCYSTIS *Peck.*
Page 34.

FIG. 19. Piece of a branch bearing the fungus.
FIG. 20. A magnified cluster of perithecia with the epidermis removed.
FIG. 21. An ascus containing spores x 400.
FIG. 22. One immature and two mature spores x 400.

CUCURBITARIA LONGITUDINALIS *Peck.*
Page 34.

FIG. 23. Piece of a branch bearing the fungus.
FIG. 24. A row of perithecia magnified.
FIG. 25. An ascus containing spores x 400.
FIG. 26. Three spores x 400.

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*This species was unpublished when the report was written, but was afterward published by Baron Thumen. Owing to the delay in printing I am enabled to insert the name given by him and thus avoid a synonym.

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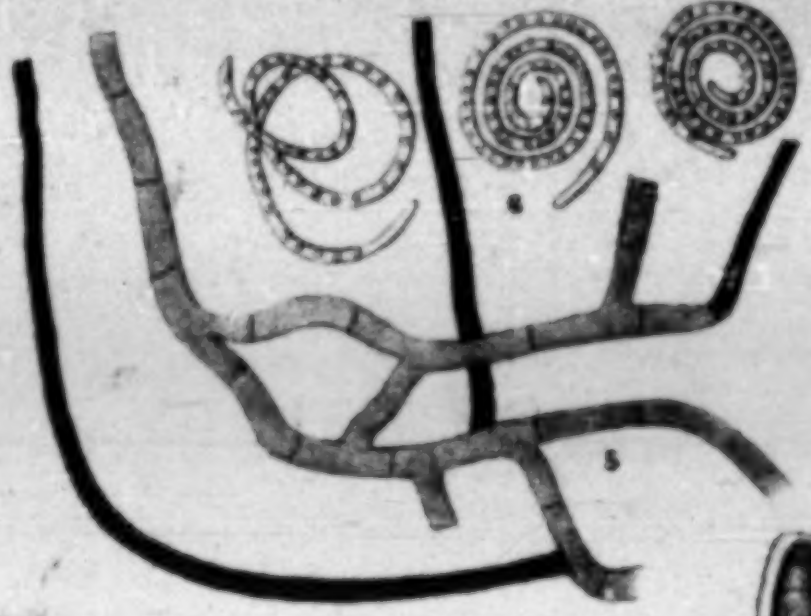
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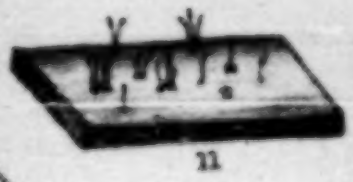
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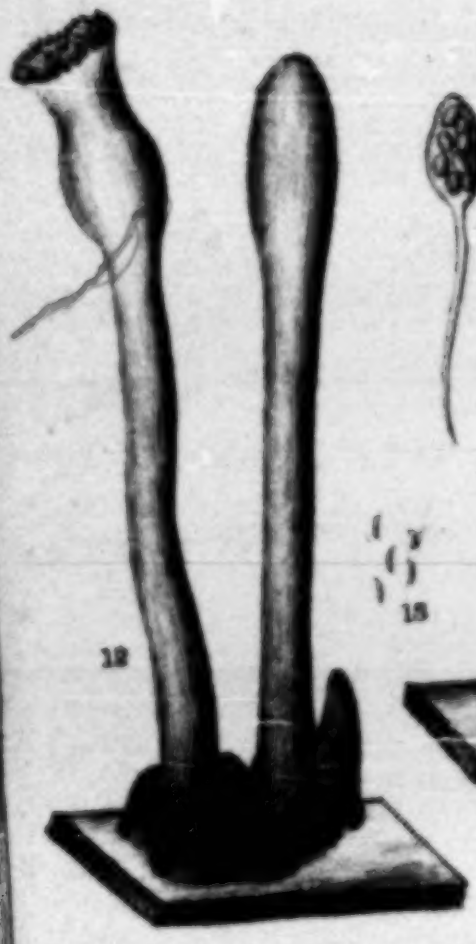
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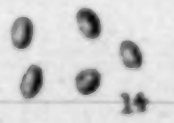
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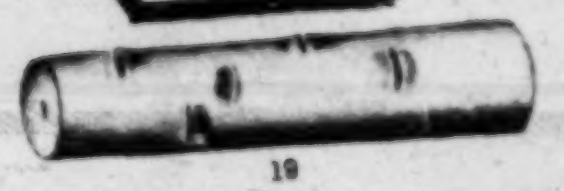
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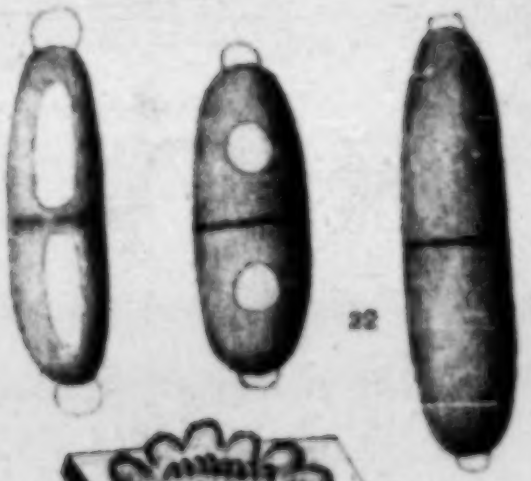
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